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JCS65 U.S. PTO

UTILITY
PATENT APPLICATION
TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.

7791-0123-25 CONT

First Inventor or Application Identifier

LARRY J. DAY, ET AL.

Title

TARGETED MARKETING AND PURCHASE BEHAVIOR MONITORING
SYSTEMAPPLICATION ELEMENTS
See MPEP chapter 600 concerning utility patent application contentsADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ Fee Transmittal Form (e.g. PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☒ Specification Total Pages **80**
3. ☒ Drawing(s) (35 U.S.C. 113) Total Sheets **24**
4. ☒ Oath or Declaration Total Pages **3**
- a. ☐ Newly executed (original or copy)
- b. ☒ Copy from a prior application (37 C.F.R. §1.63(d))
(for continuation/divisional with box 15 completed)
- i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named
in the prior application, see 37 C.F.R. §1.63(d)(2) and
1.33(b).
5. ☒ Incorporation By Reference (usable if box 4B is checked)
The entire disclosure of the prior application, from which a copy of the
oath or declaration is supplied under Box 4B, is considered to be part
of the disclosure of the accompanying application and is hereby
incorporated by reference therein.

ACCOMPANYING APPLICATION PARTS

6. ☒ Assignment Recorded at Reel/Frame 010007/0289
7. ☒ Power of Attorney (Copy)
8. ☐ English Translation Document (if applicable)
9. ☒ Information Disclosure Statement (IDS)/PTO-1449
(Copy)
10. ☒ Preliminary Amendment
11. ☒ White Advance Serial No. Postcard
12. ☐ Small Entity Statement(s) ☐ Statement filed in prior
application. Status still proper
and desired.
13. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
14. ☒ Other: Request for Priority
Change of Correspondence Address
In Parent 08/978,856
Associate Power of Attorney
In Parent 08/978,856
Assignment (Copy)

15. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below:

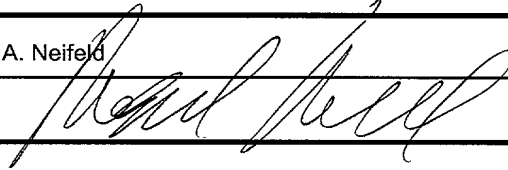
☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application no.: 08/978,856
Prior application information: Examiner: POINVIL, F. Group Art Unit: 2761

16. Amend the specification by inserting before the first line the sentence:

- ☐ This application is a ☒ Continuation of application Serial No. 08/978,856, filed on 11/26/97, which is a continuation of
application Serial No. 08/514,467, filed on 08/11/95.
- ☐ This application claims priority of provisional application Serial No. Filed

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7791-0123-25 CONT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF:

LARRY J. DAY, ET AL.

: GROUP: 2761 (ANTICIPATED)

SERIAL NO: NEW APPLICATION

: EXAMINER: POINVIL, F. (ANTICIPATED)

FILED: HERewith

FOR: TARGETED MARKETING AND PURCHASE
BEHAVIOR MONITORING SYSTEM

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Please cancel claims 1 - 121.

Please add the following new claims.

--~~1~~22. A computer implemented method comprising the steps of:

transmitting a customer's customer identification from a kiosk to a computer, said
computer in communication with at least one database (1) containing incentive offer criteria
associated with an identification of a product and (2) containing customer shopping habit data
associated with said customer identification;

determining incentive offer criteria satisfied by said customer's customer shopping
habit data;

communicating to said kiosk an incentive offer for said product associated with said
incentive offer criteria satisfied by said customer's customer shopping habit data;

inputting at a POS terminal of a retail store a customer identification in association
with an identification of an item of a product being purchased by said customer; and

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providing said incentive to said customer when said customer purchases said product at said POS terminal.

123. The method according to claim 122 wherein said kiosk is located near said retail store.

124. The method according to claim 122 wherein said kiosk is located in said retail store.

125. The method according to claim 122 wherein said kiosk is located near an entrance of said retail store.

126. The method according to claim 122 further comprising the step of locating at least one additional kiosk away from an entrance of said retail store.

127. The method according to claim 122 wherein said kiosk comprises a booth or housing.

128. The method according to claim 122 further comprising the step of reading said customer identification into a customer interface of said kiosk.

129. The method according to claim 128 wherein said customer interface comprises a member of the set of a dumb terminal and an interactive terminal.

130. The method according to claim 128 wherein said customer interface comprises a touch screen interface.

131. The method according to claim 122 wherein said step of communicating to said kiosk an incentive offer for said product comprises printing said incentive offer.

132. The method according to claim 131 wherein said step of printing comprises thermal printing using a thermal printer

133. The method according to claim 131 wherein said step of printing comprises

printing at a rate of at least 500 lines per minute.

134. The method according to claim 122 further comprising the steps of:

transmitting an identification of a product from said kiosk to said computer, wherein said computer is in communication with a database containing price data in association with product identification; and

transmitting said product's price data from said computer to said kiosk.

135. The method according to claim 134 further comprising the step of displaying said product's price data at said kiosk.

136. The method according to claim 122 wherein said POS terminal is spaced apart from said kiosk.

137. The method according to claim 122 wherein said step of inputting comprises reading said customer identification at said POS terminal.

138. The method according to claim 122 wherein said step of inputting comprises reading an identification of said product.

139. The method according to claim 122 wherein said computer is a store level computer and further comprising the step of transmitting incentive offer criteria from a supervisory computer to said store computer.

140. The method according to claim 122 further comprising the step of displaying at said kiosk a list of incentive offers for products associated with incentive offer criteria satisfied by said customer's customer shopping habit data.

141. The method according to claim 122 further comprising the step of displaying at said kiosk a list of all incentive offers for products associated with incentive offer criteria satisfied by said customer's customer shopping habit data.

142. The method according to claim 122 further comprising the step of displaying at said kiosk a list of incentive offers for products (1) associated with incentive offer criteria satisfied by said customer's customer shopping habit data and (2) that meet criteria independent of said customer's shopping habit data.

143. The method according to claim 122 further comprising the step of setting a time limit to said incentive offer.

144. The method according to claim 143 wherein said time limit is on the order of a few hours.

145. The method according to claim 143 wherein said time limit is about 3 hours.

146. The method according to claim 122 further comprising the step of determining incentive offers for said customer based upon product stock availability.

147. The method according to claim 122 further comprising determining incentive offers for said customer based upon a quantity of said customer's customer shopping habit data associated with said customer's customer identification stored in said database.

148. The method according to claim 122 further comprising limiting a number of incentive offers communicated to said kiosk for said customer to a predetermined number.

149. The method according to claim 122 further comprising displaying at said kiosk for said customer (1) broadcast special offers and (2) offers that depend upon whether said customer's customer shopping habit data meets said incentive offer criteria.

150. The method according to claim 122 further comprising displaying at said kiosk for said customer broadcast special offers to said customer only if less than a predetermined quantity of customer shopping habit data associated with said customer identification is stored in said database.

151. The method according to claim 122 further comprising the steps of:

determining a number of product incentive offers for which said customer's shopping habit data satisfies said incentive offer criteria;

ranking said product incentive offers for which said customer's shopping habit data satisfies said incentive offer criteria;

displaying, based upon said ranking, a predetermined number of the ranked incentive offers at said kiosk to said customer.

152. The method according to claim 151 wherein said ranking depends upon value of said incentive.

153. The method according to claim 151 wherein said ranking depends upon price of said product.

154. The method according to claim 151 wherein said ranking depends upon a stock condition.

155. The method according to claim 122 further comprising the steps of:

determining a number of product incentive offers for which said customer's shopping habit data satisfies said incentive offer criteria;

providing at said kiosk a first predetermined number of said incentive offers to said customer; and

providing at said kiosk a second predetermined number of broadcast incentive offers to said customer.

156. The method according to claim 122 further comprising the step of downloading to said POS terminal a list containing identifications of all products for which incentive offer criteria associated with an identification of a product are stored in said database.

157. The method according to claim 122 further comprising the step of downloading to said POS terminal a list containing identifications of all products for which incentive offers are available to said customer.

158. The method according to claim 122 wherein said customer shopping habit data comprises incentive receipt data for said customer's receipt of incentives.

159. The method according to claim 122 wherein said customer shopping habit data comprises a quantity of incentive offers for a product provided to said customer.

160. The method according to claim 122 wherein said customer shopping habit data is associated with an indication of a household associated with said customer.

161. The method according to claim 160 further comprising the step of providing the customer means to opt out of having incentive offer criteria being based upon household identification.

162. The method according to claim 122 wherein said incentive offer criteria associated with an identification of a product comprises a time after which said incentive offer is no longer available.

163. The method according to claim 122 further comprising the steps of classifying products by category and manufacturer; and

limiting incentive offers for products in a category to one manufacturer.

164. The method according to claim 122 further comprising the steps of:
transmitting a customer's store identification from said kiosk to said computer,
wherein said computer is a first store computer;

determining that said store identification identifies a second store; and

querying a second store level computer for said second store for customer shopping

habit data associated with said customer identification.

165. The method according to claim 122 further comprising the step of depending a value of an incentive offer provided at said kiosk upon whether said customer received a prior incentive.

166. The method according to claim 165 wherein said value is increased if a prior incentive offer to said customer was not accepted.

167. The method according to claim 122 wherein said incentive criteria depend upon time since a customer's last purchase.

168. A system comprising:

means for transmitting a customer's customer identification from a kiosk to a computer, said computer in communication with at least one database (1) containing incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said customer identification;

means for determining incentive offer criteria satisfied by said customer's customer shopping habit data;

means for communicating to said kiosk an incentive offer for said product associated with said incentive offer criteria satisfied by said customer's customer shopping habit data;

means for inputting at a POS terminal of a retail store a customer identification in association with an identification of an item of a product being purchased by said customer; and

means for providing said incentive to said customer when said customer purchases said product at said POS terminal.

169. The system according to claim 168 wherein said kiosk is located near said retail

store.

170. The system according to claim 168 wherein said kiosk is located in said retail store.

171. The system according to claim 168 wherein said kiosk is located near an entrance of said retail store.

172. The system according to claim 168 further comprising at least one additional kiosk located away from an entrance of said retail store.

173. The system according to claim 168 wherein said kiosk comprises a booth or housing.

174. The system to claim 168 further comprising means for reading said customer identification into a customer interface of said kiosk.

175. The system according to claim 174 wherein said customer interface comprises a member of the set of a dumb terminal and an interactive terminal.

176. The system according to claim 174 wherein said customer interface comprises a touch screen interface.

177. The system according to claim 168 wherein said means for communicating to said kiosk an incentive offer for said product comprises means for printing said incentive offer.

178. The system according to claim 177 wherein said means for printing comprises means for thermal printing using a thermal printer

179. The system according to claim 177 wherein said means for printing comprises means for printing at a rate of at least 500 lines per minute.

180. The system according to claim 168 further comprising:

means for transmitting an identification of a product from said kiosk to said computer, wherein said computer is in communication with a database containing price data in association with product identification; and

means for transmitting said product's price data from said computer to said kiosk.

181. The system according to claim 180 further comprising means for displaying said product's price data at said kiosk.

182. The system according to claim 168 wherein said POS terminal is spaced apart from said kiosk.

183. The system according to claim 168 wherein said means for inputting comprises means for reading said customer identification at said POS terminal.

184. The system according to claim 168 wherein said means for inputting comprises means for reading an identification of said product.

185. The system according to claim 168 wherein said computer is a store level computer and further comprising means for transmitting incentive criteria from a supervisory computer to said store level computer.

186. The system according to claim 168 further comprising means for displaying at said kiosk a list of incentive offers for products associated with incentive criteria satisfied by said customer's customer shopping habit data.

187. The system according to claim 168 further comprising means for displaying at said kiosk a list of all incentive offers for products associated with incentive offer criteria satisfied by said customer's customer shopping habit data.

188. The system according to claim 168 further comprising means for providing at said kiosk a list of all incentive offers for products (1) associated with incentive offer criteria

satisfied by said customer's customer shopping habit data and (2) that meet criteria independent of said customer's shopping habit data.

189. The system according to claim 168 further comprising means for setting a time limit to said incentive offer.

190. The system according to claim 189 wherein said time limit is on the order of a few hours.

191. The system according to claim 189 wherein said time limit is about 3 hours.

192. The system according to claim 168 further comprising means for determining incentive offers for said customer based upon product stock availability.

193. The system according to claim 168 further comprising means for determining incentive offers for said customer based upon a quantity of said customer's customer shopping habit data associated with said customer's customer identification stored in said database.

194. The system according to claim 168 further comprising means for limiting a number of incentive offers communicated to said kiosk for said customer to a predetermined number.

195. The system according to claim 168 further comprising means for displaying at said kiosk for said customer (1) broadcast special offers and (2) offers that depend upon said customer's customer shopping habit data meeting said incentive offer criteria.

196. The system according to claim 168 further comprising means for providing broadcast special offers to said customer only if a predetermined quantity of customer shopping habit data associated with said customer identification is stored in said database storing customer shopping habit data.

197. The system according to claim 168 further comprising:

means for determining a number of product incentive offers for which said customer's customer shopping habit data satisfies said incentive criteria;

means for ranking said product incentive offers for which said customer's customer shopping history criteria satisfies said incentive criteria;

means for displaying, based upon said ranking, a predetermined number of the ranked incentive offers at said kiosk to said customer.

198. The system according to claim 197 wherein said ranking depends upon value of said incentive.

199. The system according to claim 197 wherein said ranking depends upon price of said product.

200. The system according to claim 197 wherein said ranking depends upon a stock condition.

201. The system according to claim 168 further comprising:

means for determining a number of product incentive offers for which said customer's shopping habit data satisfies said incentive criteria;

means for providing at said kiosk a first predetermined number of said incentive offers to said customer; and

means for providing at said kiosk a second predetermined number of broadcast incentive offers to said customer.

202. The system according to claim 168 further comprising means for downloading to said POS terminal a list containing identifications of all products for which incentive offer criteria associated with an identification of a product are stored in said database.

203. The system according to claim 168 further comprising means for downloading to said POS terminal a list containing identifications of all products for which incentive offers are available to said customer.

204. The system according to claim 168 wherein said customer shopping habit data comprises incentive receipt data for said customer's receipt of incentives.

205. The system according to claim 168 wherein said customer shopping habit data comprises a quantity of incentive offers for a product provided to said customer.

206. The system according to claim 168 wherein said customer shopping habit data is associated with an indication of a household associated with said customer.

207. The system according to claim 206 further comprising means for providing the customer means to opt out of having incentive offer criteria being based upon household identification.

208. The system according to claim 168 wherein said incentive offer criteria associated with an identification of a product comprises a time after which said incentive offer is no longer available.

209. The system according to claim 168 further comprising:

means for classifying products by category and manufacturer; and

means for limiting incentive offers for products in a category to one manufacturer.

210. The system according to claim 168 further comprising:

means for transmitting a customer's store identification from said kiosk to said computer, wherein said computer is a first store computer;

means for determining that said store identification identifies a second store; and

means for querying a second store level computer for said second store for customer

shopping habit data associated with said customer identification.

211. The system according to claim 168 further comprising means for depending a value of an incentive offer provided at said kiosk upon whether said customer received a prior incentive.

212. The system according to claim 211 wherein said value is increased if a prior incentive offer to said customer was not accepted.

213. The system according to claim 168 wherein said incentive criteria depend upon time since a customer's last purchase.

214. A computer implemented method comprising the steps of:
transmitting a customer's customer identification from a kiosk to a computer, said computer in communication with at least one database (1) containing incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said customer's customer identification;

determining incentive offer criteria satisfied by (1) said customer's customer shopping habit data and (2) product stock availability data;

communicating to said kiosk an incentive offer for said product associated with said incentive criteria satisfied by said customer's customer shopping habit data and product stock availability data; and

providing said incentive to said customer at a POS terminal when said customer purchases said product.

215. A system comprising:
means for transmitting a customer's customer identification from a kiosk to a computer, said computer in communication with at least one database (1) containing

incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said customer's customer identification;

means for determining incentive offer criteria satisfied by (1) said customer's customer shopping habit data and (2) product stock availability data;

means for communicating to said kiosk an incentive offer for said product associated with said incentive offer criteria satisfied by said customer's customer shopping habit data and product stock availability data; and

means for providing the incentive defined by said incentive offer to said customer at a POS terminal when said customer purchases said product.

216. A computer implemented method comprising the steps of:

transmitting incentive offer criteria associated with an identification of a product from a supervisory computer to a store level computer for a store, said store level computer in communication with at least one database (1) for storing said incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said stores customers' customer identifications;

determining a determination at said store level computer if said incentive offer criteria is satisfied by a customer's customer shopping habit data; and

depending upon said determination, providing said incentive to said customer at a POS terminal of said store when said customer purchases said product.

217. A system comprising:

means for transmitting incentive offer criteria associated with an identification of a product from a supervisory computer to a store level computer for a store, said store level computer in communication with at least one database (1) for storing said incentive offer

criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said store's customers' customer identifications;

means for determining a determination at said store level computer if said incentive offer criteria is satisfied by a customer's customer shopping habit data; and

means for, depending upon said determination, providing said incentive to said customer at a POS terminal of said store when said customer purchases said product.

218. A computer implemented method comprising the steps of:

storing in one or more databases incentive offer criteria associated with an identification of a product and customer shopping habit data associated with a customer's customer identification;

wherein said incentive offer criteria includes a quantity of said customer's customer shopping habit data associated with said customer's customer identification;

determining a determination if incentive offer criteria associated with said identification of said product is satisfied by said customer's customer shopping habit data; and

depending upon said determination, providing to said customer said incentive at a POS terminal of said store when said customer purchases said product.

219. A system comprising:

means for storing in one or more databases incentive offer criteria associated with an identification of a product and customer shopping habit data associated with a customer's customer identification;

wherein said incentive offer criteria includes a quantity of said customer's customer shopping habit data associated with said customer's customer identification;

means for determining a determination if incentive criteria associated with said identification of said product is satisfied by said customer's customer shopping habit data; and

means for, depending upon said determination, providing to said customer said incentive at a POS terminal of said store when said customer purchases said product.

220. A computer implemented method comprising the steps of:

transmitting a customer's customer identification from a kiosk to a computer, said computer in communication with at least one database (1) containing incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said customer identification;

determining incentive offer criteria satisfied by said customer's customer shopping habit data;

communicating to said kiosk an incentive offer for said product associated with said incentive offer criteria satisfied by said customer's customer shopping habit data; and

communicating broadcast special offers to said kiosk and only if less than a predetermined quantity of customer shopping habit data associated with said customer identification is stored in said database storing customer shopping habit data.

221. A system comprising:

means for transmitting a customer identification from a kiosk to a computer, said computer in communication with at least one database (1) containing incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said customer identification;

means for determining incentive offer criteria satisfied by said customer's customer

shopping habit data;

means for communicating to said kiosk an incentive offer for said product whose identification is associated with said incentive offer criteria satisfied by said customer's customer shopping habit data; and

means for communicating broadcast special offers to said kiosk only if less than a predetermined quantity of customer shopping habit data associated with said customer identification is stored in said database storing customer shopping habit data.

222. A computer implemented method comprising the steps of:

transmitting a customer's customer identification from a kiosk to a computer, said computer in communication with at least one database (1) containing incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said customer's customer identification;

ranking said product incentive offers for which said customer's shopping history criteria satisfies said incentive offer criteria;

displaying, based upon said ranking, only a predetermined number of the ranked incentive offers at said kiosk, according to the ranking of the incentive offers.

223. The method according to claim 222 wherein said ranking depends upon values of incentives defined by said incentive offers.

224. The method according to claim 222 wherein said ranking depends upon prices of products associated with said incentive offers.

225. The method according to claim 222 wherein said ranking depends upon a stock condition.

226. A system comprising:

means for transmitting a customer identification from a kiosk to a computer, said computer in communication with at least one database (1) containing incentive offer criteria associated with an identification of a product and (2) containing customer shopping habit data associated with said customer's customer identification;

means for ranking said product incentive offers for which said customer's shopping habit data satisfies said incentive offer criteria; and

means for displaying only a predetermined number of the ranked incentive offers to said customer, depending upon the ranking of the incentive offers.

227. The system according to claim 226 wherein said ranking depends upon values of the incentives defined by the incentive offers.

228. The system according to claim 226 wherein said ranking depends upon prices of said products associated with said incentive offers.

229. The system according to claim 226 wherein said ranking depends upon a stock condition.--

REMARKS

Claims 1-121 are canceled.

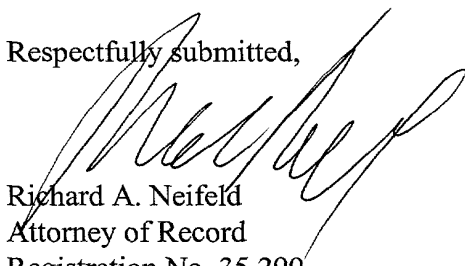
This amendment adds new claims 122-229.

The independent claims are 122, 168, 214-222, and 226.

Please note that the parent application is currently on appeal.

Please note that the grandparent application has issued.

Respectfully submitted,


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION FOR LETTERS PATENT

* * * * *

TARGETED MARKETING AND PURCHASE
BEHAVIOR MONITORING SYSTEM

* * * * *

INVENTORS

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ATTORNEY'S DOCKET NO. MI43-001

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1 TECHNICAL FIELD

2 The invention relates to point of sale marketing and purchase
3 behavior monitoring.

4
5 BACKGROUND OF THE INVENTION

6 It is known to provide coupons to consumers in order to attempt
7 to influence their purchasing behavior, for example to entice them to
8 try a new product. Such coupons are typically made available to the
9 general public by mailing coupon packages to large numbers of people,
10 or by including coupons in newspapers.

11 A problem with using such coupons is that there is a possibility
12 of fraudulent use. It may be possible for a retailer to receive cash for
13 coupons even though they did not sell a manufacturer's product. It
14 may be possible for a consumer to exceed discount limitations per
15 consumer by shopping at multiple different stores. A cashier may not
16 be able to carefully follow the rules associated with a coupon, such as
17 rules requiring a purchaser to buy a certain quantity of the product to
18 be eligible for the discount.

19 Another problem with using coupons or price discounting is an
20 inability to target a specific segment of the market. Instead, the
21 coupons or discounts are provided to a large number of consumers,
22 many of whom have no interest whatsoever in the particular type of
23 product. For example, consumers who do not own pets would have no
24 interest in pet food coupons or discounts; consumers who do not have

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1 a baby would not be interested in coupons or discounts for baby food
2 or items; vegetarians would not be interested in coupons or discounts
3 for meat, etc. Thus, a great quantity of advertising is wasted on
4 people who have no interest in the items being offered.

5 Another disadvantage of the current coupon system is the great
6 expense in having a clearing house through which coupons are physically
7 delivered for redemption. Associated therewith are handling costs
8 incurred by the national store, clearinghouse, and manufacturer. These
9 costs are typically borne by the manufacturer or other distributor of the
10 product.

11 Further, there are circumstances in which a retailer or
12 manufacturer would only be interested in offering coupons to certain
13 consumers, such as to reward repeat purchasers or quantity purchasers,
14 or to entice consumers of competitors products to switch brands. The
15 retailer or manufacturer may have a limited budget and may only be
16 interested in providing coupons to consumers who purchase goods of a
17 certain type, or in a certain quantity. This is difficult or impossible
18 using most or all prior systems.

19 It is also known to generate and sell mailing lists of consumers
20 who have certain tendencies or who purchase certain items. People
21 who purchase items by mail order quickly find themselves receiving
22 catalogs and information from other retailers who sell similar or related
23 products. Mailing lists are valuable because they provide useful
24 information about consumers, and permit targeted marketing. It would

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1 be valuable to be able to collect information about buying habits of
2 particular individuals other than just those who purchase through mail
3 order services.

4 U.S. Patent No. 4,882,675 (incorporated by reference) discloses a
5 paperless coupon system. Consumers each have a card having thereon
6 a UPC code. The consumers access a terminal and make selections
7 from possible available coupons prior to beginning shopping. A
8 shopping list of coupons is then presented to the consumer. There is
9 a link to check-out stations, and discounts selected by the consumer are
10 subtracted from the consumers total bill. Optionally, data regarding the
11 consumers purchases is captured.

12 U.S. Patent No. 4,723,212 (incorporated by reference) discloses a
13 system for printing coupons when a consumer purchases a competitor's
14 product.

15 U.S. Patent No. 4,674,041 (incorporated by reference) and
16 WO85/01373 disclose systems including terminals which receive magnetic
17 cards, and which dispense coupons available to a particular consumer.
18 The terminals communicate with a host computer, and the system
19 provides for overall limits on a discount throughout the entire terminal
20 system so that a manufacturer can put a maximum cap or limit on a
21 promotion for the entire terminal system. Coupons per store can be
22 limited as well.

1 U.S. Patent No. 4,412,631 (incorporated by reference) discloses
2 dispensed cards which are used for imprinting onto coupons. This
3 reduces the opportunity for fraud.

4 U.S. Patent No. 4,124,109 discloses a coupon dispenser which
5 receives a card having a magnetic strip, which card includes indicia
6 indicating the last time it was used.

7 U.S. Patent Nos. 3,959,624 (incorporated by reference) discloses
8 coupons having UPC bar codes thereon. The UPCs on coupons
9 presented at check-out time must match UPCs for products purchased
10 before discounts will be applied to a consumer's bill. Similarly, U.S.
11 Patent No. 4,554,446 (incorporated by reference) discloses scannable
12 coupons.

13 A system including a supervisory computer communicating with
14 store level computers, and providing for targeted special offers was
15 installed for experimental testing in a joint development arrangement in
16 June, 1994.

17
18 BRIEF DESCRIPTION OF THE DRAWINGS

19 Preferred embodiments of the invention are described below with
20 reference to the accompanying drawings, which are briefly described
21 below.

22 FIG. 1 is a block diagram of a system embodying the invention.

23 FIGS. 2-3 are flow charts illustrating store level special offer
24 (promotional) staging.

1 FIG. 4 is a flow chart illustrating a promotion set up at a
2 check-out register.

3 FIG. 5 is a flow chart illustrating identifying customers qualifying
4 for special offers.

5 FIGS. 6-10 are flow charts illustrating activity at a kiosk which
6 a customer uses to obtain a list of special offers.

7 FIG. 11 is a flow chart illustrating processing that takes place at
8 a store level computer when a check-out sends a message to the store
9 level computer.

10 FIGS. 12-14 are flow charts illustrating transactional analysis that
11 takes place at a check-out (point of sale terminal).

12 FIGS. 15-17 are flow charts illustrating updating of database
13 statistics.

14 FIG. 18 is a flow chart illustrating file transfer to a home store.

15 FIG. 19 is a flow chart illustrating remote transaction analysis.

16 FIG. 20 is a flow chart illustrating deletion of expired special
17 offers.

18 FIG. 21 is a block diagram illustrating hardware components and
19 cabling for a store employing NCR (trademark) check-outs.

20 FIG. 22 is a block diagram illustrating hardware components and
21 cabling for a store employing IBM (trademark) check-outs.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

This disclosure of the invention is submitted in furtherance of the constitutional purposes of the U.S. Patent Laws "to promote the progress of science and useful arts" (Article 1, Section 8).

The invention provides a paperless coupon system which tracks consumer purchasing behavior. The system presents special offers (promotions) to customers. The special offers include customized targeted offers for specific customers. The invention allows manufacturers to select which consumers obtain discounts, and how big of a discount.

FIG. 1 shows a system 10 embodying the invention. The system 10 includes a plurality of store level computers or in store processors 12. One store level computer 12 is included in each of various stores, shops, or retail outlets 14. As all the stores 14 include equipment that operates in substantially a similar manner, only one store 14 will be described.

Each computer 12 includes a database containing customer account information, including information regarding purchases made by individual customers. Each computer 12 further includes a database of special offers including customized targeted offers to be made to selected customer accounts on the basis of targeted offer targeting parameters. While various other types of computers can be employed, in the illustrated embodiment the computer 12 is a UNIX machine.

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1 The system 10 further includes a supervisory computer 16
2 networked to the store level computers 12 via a wide area network 18.
3 Any appropriate networking technique can be used, such as satellite
4 communication between the supervisory computer 16 and one or more
5 of the store level computers 12, or TCP/IP communication.

6 The supervisory computer is used to perform special offer
7 maintenance, category management, network administration, system
8 administration, and is optionally used for software distribution. The
9 store level computers 12 can comprise computers for one chain or
10 franchise or stores 14, or can comprise computers for several chains or
11 stores. This will become more clear upon review of the following
12 description.

13 Optionally, regional computers 20 are interposed between the
14 supervisory computer 16 and the store level computers 12 to assist in
15 data storage, analysis and targeted marketing. A regional computer 20
16 would be connected to several store level computers 12 of one or more
17 chains in a certain geographic area. Executives from a head office of
18 a chain of stores can connect to the regional computer (e.g., via a dial-
19 up or TCP/IP connection) and obtain reports relating to their chain of
20 stores, or relating to individual stores in their chain.

21 The supervisory computer 16 periodically downloads special offers
22 to the store level computers. More particularly, the administrators of
23 the supervisory computer 16 communicate with various manufacturers,
24 and determine what targeting parameters the manufacturers want to use

in making special offers. The manufacturers may wish to make special offers to all customers (broadcast special offers), or only to customers who meet certain criteria (targeted offers). For example, the manufacturer may wish to offer discounts of varying degrees to customers who have not settled on a brand and frequently switch brands. The amount of discount may vary depending on the quantity of that category of product that the customer purchases. Similarly, a manufacturer may wish to offer discounts of varying degrees to loyal customers who mostly purchase the manufacturer's products, to reward loyal customers. Or a manufacturer trying to gain market share may only wish to provide discounts to loyal customers of a competitor, or may decide to offer higher discounts to loyal customers of a competitor than to switchers.

Thus, the targeting parameters may include whether the customer is a switcher (e.g., a customer who purchases a certain brand of product sometimes, and other brands of the same category of product other times). A switcher may be defined as a customer who purchases a certain brand of product a certain percentage of the time, such as 40% of the time. The targeting parameters may include whether the customer is a loyal (e.g., a customer who purchases a certain brand of product most of the time, and other brands of the same category of product other times). A loyal customer may be defined as a customer who purchases a certain brand of product a certain percentage of the time, such as 80% of the time. The targeting parameters may include

quantity parameters. For example, heavy, moderate, light, or never quantities parameters may be established.

The system 10 further includes a plurality of cards 22. Each card has thereon machine readable information for associating the card with particular customer and customer account, and with a particular store in the chain. In the illustrated embodiment, the card 22 has thereon a UPC code 24. The UPC code identifies the customer and identifies the customer's home store. Every customer has a home store where they set up their account, and where some of their records relating to their purchase behavior are kept. In alternative embodiments, the machine readable information of the card 22 is contained in a magnetic strip, or the card 22 is a smart card. Any other suitable means of storing information in a card can be employed. Similarly, any other means of identifying a customer can be employed instead of the cards and the card readers described below (e.g., passwords, fingerprint scans, retinal scans, etc. are employed in alternative embodiments).

At least one kiosk 26 is placed in each store 14. The kiosk 26 is a booth or housing. Preferably, at least one kiosk 26 is located near the entrance of the store 14. One or more additional kiosks can be located in other parts of the store frequented by customers. The system 10 further comprises a customer interface 28 housed in each kiosk 26 and in communication with the store level computer 12 associated with the store in which the kiosk 26 is located. In the illustrated embodiment, the customer interface comprises a card

reader 28 including means for reading the machine readable information on the card, for sending information from the card to the store level computer 12 of the store where the kiosk is located. In the illustrated embodiment, the customer interface comprises a dumb terminal 30 connecting the card reader 28 to the store level computer 12. Other customer interfaces can be employed, such as interactive terminals, touch screen interfaces, etc.

The kiosk 26 also houses an offer communicator (offer communicator means) 32 for communicating respective individualized lists of special offers to customers who access the customer interface. While various offer communicators could be employed, in the illustrated embodiment the offer communicator comprises a printer. The printer 32 is preferably a high speed printer, such as a thermal printer, so as to enable quick processing of customers at the kiosk 26 to keep lines at the kiosk 26 down to a minimum. In one embodiment, the printer 32 prints at least 500 lines per minute. More particularly, the printer 32 is a thermal strip printer which prints 600 lines per minute. Other high speed printers can be employed.

The kiosks 26 can also be used by customers to check prices of products. For example, some state laws require that bar code readers be distributed throughout a store so that customers can scan bar codes on products to check prices. The kiosks 26 are capable of being used for this purpose.

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1 The system 10 further comprises one or more check-outs or point-
2 of-sale terminals 34 in each store. These are spaced apart from the
3 kiosks 26, which are preferably located in a different area of the store.
4 The check-outs 34 in a store are in communication with the store level
5 computer 12 associated with the same store. The check-outs 34 include
6 readers which read the cards 22 in addition to products. More
7 particularly, in the illustrated embodiment, the check-outs 34 include bar
8 code readers which read UPC codes on the products, as well as UPC
9 codes 24 on the cards 22.

10 In operation, a customer sets up an account with a store and
11 receives one of the cards 22. Then, whenever the customer goes
12 shopping, he or she goes to one of the kiosks before beginning
13 shopping and presents the card 22 to the customer interface 28. The
14 store level computer 12 includes means for accessing information about
15 the special offers available to the customer associated with the card,
16 and generates a customized list of special offers available to that
17 particular customer. More particularly, the computer 12 determines what
18 special offers are available to this customer, and sends a list of special
19 offers to the offer communicator 32. The customer then has a
20 shopping list of special offers to use while shopping. The customer
21 does not engage in any selection process, but instead is quickly
22 processed at the kiosk. The customer then has a limited time, e.g. 3
23 hours, to take advantage of the special offers before they expire.
24

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1 The first few times the customer uses the card 22, the computer
2 12 will have little information about the customer's buying habits.
3 Therefore, the special offers available to that customer may not contain
4 many targeted special offers. To keep the customer interested in using
5 the card, while purchasing behavior information is being obtained, the
6 customer will be given broadcast special offers, which are special offers
7 available to everyone (as opposed to targeted special offers). In
8 addition, the customer may be entitled to a frequent shopper plan
9 (similar to frequent flyer plans) or to a lottery if he or she uses the
10 card 22. The frequent shopper plan awards points based on amount
11 of use of the card 22 or based on amounts spent in the store. A
12 lottery number can be printed on the shopping list by the printer 32,
13 for later comparison by the shopper with a list of randomly selected
14 winners, or the shopping list can include an indication as to whether
15 or not the customer is a winner. The prizes for the winner of the
16 lottery can include bonus frequent shopper points, product discounts,
17 cash awards, etc.

18 In one embodiment, the total number of listed special offers
19 (including both broadcast special offers and targeted special offers) is
20 the same for each customer. A predetermined number of special offers
21 ("slots") thus appears on a customer's shopping list, and the
22 predetermined number is the same for each customer. In one
23 embodiment, the predetermined number of special offers are the highest
24 value special offers available to the particular customer (e.g., highest

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1 customers. If a customer purchases a product which is included in this
2 list, the check-out 34 communicates with the store level computer 12 to
3 determine if a special offer is available to the particular customer
4 whose card 22 was scanned by the check-out 34 in sequence with the
5 products, and to determine the value of the special offer for this
6 customer. The check-out 34 applies any special offers available to that
7 customer to the customer's total if the customer purchased products for
8 which special offers were available to the customer. In one
9 embodiment, if a product that is currently on promotion to at least one
10 customer is scanned at the check-out 34 before the customer's card 22
11 is scanned, the check-out register 34 communicates the purchase to the
12 store level computer 12 but does not necessarily wait for a response
13 from the store level computer 12. If or when the customer card 22
14 is finally scanned at the check-out register 34 as part of the shopping
15 trip, the check-out 34 communicates the card number of the customer
16 card 22 to the store level computer 12. The store level computer 12
17 then communicates to the check-out register 34 each discount that the
18 consumer qualified for because of the product purchases made in this
19 shopping trip prior to the scan of the customer card 22. Subsequent
20 discounts are then received by the check-out 34 immediately following
21 the scan of a qualifying product, as previously presented.

22 Special offers that were accepted by the customer, and that are
23 restricted to a certain quantity of product, will not be available to the
24 customer the next time the customer accesses the kiosk 26 if the

When targeted special offers are set up, the administrators of the supervisory computer 16 communicate with manufacturers, and determine who the manufacturers want to target. The manufacturers provide targeted offer targeting parameters in the form of criteria a customer must meet in order to be eligible for a particular targeted offer. Before the targeted special offers go into effect, a staging operation takes place during which either the supervisory computer 16 or the store level computer 12 determines which customers in the customer account databases meet the criteria. Each special offer is typically set, using the supervisory computer 16, to automatically expire on a certain date, after which date the special offer will no longer be printed on the shopping lists.

The system 10 further comprises means for defining, using the supervisory computer, categories of products, and means for providing category exclusivity, wherein the system only permits special offers for one brand of product per category. Each product falls within a category, such as meat, beverages, baby supplies, etc. When targeted special offers are set up, the supervisory computer 16 will not allow a targeted special offer to be set up for a store if there is a special offer for a competitor's product of the same category available during the same time frame at the same store.

If a customer uses his or her card 22 at a customer interface 28 in a store other than their home store, the store level computer 12 communicates with the customer's home store and the customer's

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1 account is accessed even though the customer is not in his or her
2 home store. Thus, the customer can obtain a list of special offers even
3 when shopping at another store of a chain of stores. In one
4 embodiment, the customer can obtain a list of special offers even when
5 presenting a card 22 from a competitor's chain of stores. The
6 competitor's chain of stores will automatically set up a new account and
7 at least provide broadcast special offers to the customer while purchase
8 behavior information is collected in a store level computer of the
9 competitor's chain of stores.

10 The system further comprises means for preventing a special offer
11 from being communicated by the offer communicator 32 if the product
12 associated with the special offer is out of stock. More particularly, if
13 a store manager learns that a certain product is out of stock or low
14 of stock, he or she can access the store level computer 12 and prevent
15 the offer communicators 32 in his or her store from printing any more
16 special offers for the out of stock product.

17 The system 10 further comprises means for automatically increasing
18 the value of a special offer available to a customer for a product if
19 the customer previously did not purchase that product after one of the
20 offer communicators communicated a discount for that product to the
21 customer, and means for communicating the increased value special offer
22 to the customer when the customer subsequently presents the customer's
23 card to one of the customer interfaces. A manufacturer may wish to
24 increase a targeted special offer available to a customer if the customer

did not purchase a product for which a targeted special offer was available. For example, if the value of the targeted special offer is increased, a loyal customer may be enticed to try a different brand. When the targeted special offer is set up, using the supervisory computer 16, the targeted special offer is selected to automatically increase if not accepted by customers meeting certain parameters.

The supervisor computer 16 further comprises means for generating a report of the effectiveness of special offers (including targeted special offers) in causing customers to purchase products. For example, a manufacturer may want to know whether a targeted special offer increased their sales. Because the store level computers maintain records of purchase behavior, the supervisory computer 16 is capable of printing out reports of whether targeted special offers were accepted, and with what amount of success. NOTE: Records of purchase behavior may be maintained at the customer's home store system 14, at a regional computer system 20, at the supervisory computer 16, or at any combination of these computer locations. The "closest" record system will always be accessed by the system 10, as required.

The system 10 also provides for the possibility of presenting special offers based on repurchase cycles. If a customer just bought a product, a targeted special offer can be presented to that customer at a time when it is expected that the customer would run out of the product and would need to purchase more of the product.

offers is set up during the store level staging. Any of the computer systems (14, 20, or 16) containing the customer purchase history may be used to target recipients of a promotion. If targeting takes place anywhere other than on a store level computer, either the list of targeted customers is transmitted to each appropriate store level computer, or the targeting process itself must be repeated at each store level computer. The staging of promotional products at the check-out 34 takes place only at the store level computers that will support the promotion.

A special status flag (stat) is used to indicate the status of a particular promotion at a particular point in time. This status flag determines what action, if any, is to be taken for a given promotion. In the embodiment represented by FIGS. 2 and 3, the following meaning of the status flag values are used:

<u>Status Value</u>	<u>Meaning</u>
0	The promotion is still in the configuration process, and is not to be staged or targeted.
1	The promotion is fully defined, and will be staged at the check-out 34 system when the promotion becomes effective.
2	The promotion has been staged at the check-out 34, and is now ready to be targeted to the households that qualify for the promotion.
3	The promotion is fully staged; it may appear at the offer communicator 32 or the kiosks 26, and may be discounted at the check-out 34. The promotion will normally remain active until its expiration.

check the price of the product. When a customer presents a card to the kiosk, a determination is made whether the customer is at the customer's home store. If not, this customer can be added to the database for this store. Special offers are printed on a shopping list for the customer. The number of special offers printed is kept below a certain number.

At step 92, a welcome message is displayed at the kiosk 26. After performing step 92, the system proceeds to step 94.

At step 94, a UPC is scanned by the card reader 28.

At step 96, a determination is made whether the UPC is a formal UPC. If so, the system proceeds to step 108; if not, the system proceeds to step 98.

At step 98, a determination is made whether this kiosk 26 supports the possibility of looking up prices of products (instead of only reading the cards 22). If not, the system proceeds to step 100; if so, the system proceeds to step 102.

At step 100, the kiosk 96 displays that the price look-up of products is not supported. After performing step 100, the system proceeds to step 92.

In step 102, a determination is made whether a UPC is on file for the product presented to the kiosk 26. If so, the system proceeds to step 106; if not, the system proceeds to step 104.

determine what special offers are available for this visitor. After performing step 120, the system proceeds to step 122 where the system waits for a response. After waiting for a response, the system proceeds to step 124.

At step 124, a determination is made whether the cross-shopping request was successful. If so, the system proceeds to step 128; if not, the system proceeds to step 126.

At step 126, the kiosk 26 displays or communicates that there are no offers available. After performing step 126, the system proceeds to step 92.

At step 128, a determination is made whether the customer's offers are available for shopping. If so, the system proceeds to step 132; if not, the system proceeds to step 130.

At step 130, an error message is displayed at the kiosk 26, indicating the reason for the refusal to print the offer list. After performing step 130, the system proceeds to step 92.

At step 132, a personalized welcome message is displayed at the kiosk 26. After performing step 132, the system proceeds to step 134.

At step 136, the next active special offer of this customer is read. After performing step 136, the system proceeds to step 138. If no more offers are to be presented to this customer, the system proceeds to step 92.

At step 138, household activity for the household corresponding to the card 22 which was presented to the kiosk 26 is looked up for

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1 At step 152, this special offer is communicated to the customer
2 by the offer communicator 32. After performing step 152, the system
3 proceeds to step 154.

4 At step 154, a determination is made whether the maximum
5 number of offers have been communicated to the customer at the offer
6 communicator 32. If so, the system proceeds to step 108; if not, the
7 system proceeds to step 136.

8 FIGS. 9 and 10 are flow charts representing the activity that
9 takes place at the customer's home store level computer 12 when the
10 customer scans the membership card 22 at the kiosk scanner 28 of a
11 kiosk 26 which is not located in the customer's home store.

12 At step 156, a determination is made whether the card number
13 is on file. If so, the system proceeds to step 164; if not, the system
14 proceeds to step 158.

15 At step 158, a determination is made whether "Auto Add" is set
16 (whether this store will allow card numbers to be automatically added
17 to its database). If so, the system proceeds to step 160; if not, the
18 system proceeds to step 162.

19 At step 160, this card number is added to the database. After
20 performing step 160, the system proceeds to step 164.

21 At step 162, the system returns a negative response to the store
22 level computer 12 which made the request. This process is now
23 complete.
24

At step 164, a determination is made whether the customer's offers are available for shopping. If so, the system proceeds to step 166; if not, the system proceeds to step 162.

At step 166, the next cross-shoppable active special offer is read. If no more special offers exist, the system proceeds to step 182. Otherwise, the system proceeds to step 168.

At step 168 household activity is read for this special offer.

After performing step 168, the system proceeds to step 170.

At step 170, a determination is made whether household activity was found for this special offer. If so, the system proceeds to step 174; if not, the system proceeds to step 172.

At step 172, a determination is made whether the special offer is a targeted special offer. If so, the system proceeds to step 166; if not, the system proceeds to step 178.

At step 174, a determination is made whether the activity is within the limits established for this special offer. If so, the system proceeds to step 178; if not, the system proceeds to step 176.

At step 176, a determination is made whether the special offer is non-targeted. If so, the system proceeds to step 178; if not, the system proceeds to step 166.

At step 178, information about this promotion and the household activity relating to this promotion are added to the cross-shopping reply message (which will be sent back to the requesting computer in step 182). After performing step 178, the system proceeds to step 180.

1 At step 180, a determination is made whether the cross-shopping
2 response message is at its maximum size (e.g.: a predetermined number
3 of special offers). If so, the system proceeds to step 182; if not, the
4 system proceeds to step 166.

5 FIG. 11 is a flow chart illustrating processing that takes place at
6 a store level computer when a check-out sends a message to the store
7 level computer. When an item is scanned at the check-out, a
8 determination is made as to whether it is a card 22, or a product. If
9 it is a card 22, a determination is made as to whether it was scanned
10 at a kiosk 26 (is offer status = 1). If a product is scanned, a
11 determination is made whether the customer met purchase requirements
12 in order to be eligible for a special offer.

13 At step 184, a message is received from a check-out 34. After
14 performing step 184, the system proceeds to step 186.

15 At step 186, a determination is made whether the item presented
16 to the check-out 34 is one of the cards 22. If so, the system proceeds
17 to step 192; if not, the system proceeds to step 188.

18 At step 188, a determination is made whether the item presented
19 at the check-out 34 is a product. If so, the system proceeds to step
20 194; if not, the system proceeds to step 190.

21 At step 190, a determination is made whether a check-out
22 close/resume message has been received indicating an end to the
23 transaction at the check-out 34. If so, the system proceeds to step
24 198; if not, the system proceeds to step 184.

At step 192, a determination is made whether the card number for the card 22 presented to the check-out 34 is on file. If so, the system proceeds to step 204; if not, the system proceeds to step 206.

At step 204, a determination is made whether the card 22 was scanned at the kiosk 26. If so, the system proceeds to step 218; if not, the system proceeds to step 206.

At step 206, a negative response is returned indicating that special offers are not available to this customer. After performing step 206, the system proceeds to step 184.

At step 218, promotion information is read from the POS support table. After performing step 218, the system proceeds to step 226.

At step 226, the next discount due to this customer is determined based upon product UPC scans which preceded the card 22 scan. After performing step 226, the system proceeds to step 234.

At step 234, a determination is made whether a discount was found. If so, the system proceeds to step 242; if not, the system proceeds to step 235.

At step 242, the UPC and discount is returned. After performing step 242, the system proceeds to step 226.

At step 235, the consumer offer status is set to "U", preventing any other activity against this consumer's offers until the entire check-out is analyzed and accounted for (FIGS. 12-17). After performing step 235, the system proceeds to step 236.

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1 At step 200, a determination is made whether the card 22 was
2 successfully scanned at the check-out 34 as part of this check-out. If
3 so, the system proceeds to step 202; if not, the system proceeds to step
4 214.

5 At step 202, the consumer offer status is set to "U". After
6 performing step 202, the system proceeds to step 214.

7 At step 214, tallies are reset. After performing 214, the system
8 proceeds to step 184.

9 At step 210, a determination is made whether the transaction was
10 voided or canceled. If so, the system proceeds to step 212; if not, the
11 system proceeds to step 222.

12 At step 212, a determination is made whether the card 22 was
13 scanned at the check-out 34 as part of this check-out. If so, the
14 system proceeds to step 216; if not, the system proceeds to step 224.

15 At step 216, the consumer's offer status is set back to "I". After
16 performing step 216, the system proceeds to step 224.

17 At step 224, tallies are reset. After performing step 224, the
18 system proceeds to step 184.

19 At step 222, a determination is made whether the transaction was
20 suspended at the check-out 34. If so, the system proceeds to step 232;
21 if not, the system proceeds to step 246.

22 At step 232, all information accrued for this check-out is moved
23 into suspense. After performing step 232, the system proceeds to step
24 184.

At step 254, a determination is made as to whether a card 22 was scanned at the check-out 34. If so, the system proceeds to step 258; if not, the system proceeds to step 256.

At step 256, the transaction is marked as a home non-member (in other words, this customer did not scan a card 22 at the check-out 34). After performing step 256, the system proceeds to step 282.

At step 258, the determination is made whether the card 22 that was scanned is for this store. If so, the system proceeds to step 268; if not, the system proceeds to step 260.

At step 260, a determination is made as to whether the store number on the card is a known store number. If so, the system proceeds to step 262; if not, the system proceeds to step 264.

At step 264, the transaction is marked as a transaction for a card having an unknown home store. After performing 264, the system proceeds to step 282.

At step 262, the transaction is marked as a transaction for a visitor from another home store. After performing step 262, the system proceeds to step 266.

At step 266, a determination is made whether this card number is on file as a visitor who scanned his or her card 22 at a kiosk 26. If so, the system proceeds to step 278; if not, the system proceeds to step 282.

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1 At step 268, a determination is made whether this card number
2 is on file as a home store customer. If so, the system proceeds to
3 step 276. If not, the system proceeds to step 270.

4 At 270, a determination is made as to whether automatic addition
5 of card numbers is set for this store. If so, the system proceeds to
6 step 274; if not, the system proceeds to step 272.

7 At step 272, this transaction is marked as a transaction for a
8 home non-member (a customer possessing a card for this store, for
9 whom no account has yet been set up). After performing step 272 the
10 system proceeds to step 282.

11 At step 274, the card number is added to the database. After
12 performing step 274, the system proceeds to step 276.

13 At step 276, the transaction is marked as a transaction for a
14 home member (a customer having this store as their home store).
15 After performing step 276, the system proceeds to step 278.

16 At step 278, a determination is made whether the customer
17 scanned his or her card 22 at both the kiosk 26 and at the check-out
18 34. If so, the system proceeds to step 280; if not, the system proceeds
19 to step 282.

20 At step 280, the transaction is marked as a share-builder
21 transaction (a transaction for which special offers may have been
22 redeemed or discounted at the check-out 34). After performing step
23 280, the system proceeds to step 282.

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1 At step 282, database statistics are updated (see FIGS. 15-17).
2 After performing step 282, the system proceeds to step 284.

3 At step 284, a determination is made as to whether this is a
4 share-builder transaction (see step 280 for the definition of a share
5 builder transaction). If so, the system proceeds to step 286; if not, the
6 system proceeds to step 288.

7 At step 286, the customer offer status is set to "A", to allow
8 subsequent activity against the customer's targeted offers. After
9 performing step 286, the system proceeds to step 288.

10 At step 288, a determination is made as to whether the
11 transaction type is a visitor transaction. If so, the system proceeds to
12 step 290; if not, this processing is completed.

13 At step 290, an image of the transaction is written to a "flat"
14 file, to be sent to the customer's home store. After performing step
15 290, this processing is completed.

16 FIGS. 15-17 are flow charts illustrating updating of database
17 statistics for a single POS transaction received from either a check-out
18 34 at this store or from another store (see step 290).

19 At step 292, the period number of this transaction is determined.
20 After performing step 292, the system proceeds to step 294.

21 At step 294, daily activity statistics are updated based on this
22 transaction's type. After performing step 294, the system proceeds to
23 step 296.
24

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1 At step 296, a determination is made whether the transaction is
2 for a customer whose home store is this store. If so, the system
3 proceeds to step 298; if not, the system proceeds to step 300.

4 At step 298, household-level life-to-date statistics are updated for
5 this specific household, as identified by the card 22 scanned at the
6 check-out 34. After performing step 298, the system proceeds to step
7 300.

8 At step 300, period-based household-level statistics are updated.
9 After performing step 300, the system proceeds to step 302.

10 At step 302, a determination is made as to whether the
11 transaction type is a remote transaction (a transaction sent to this store
12 from another store, for a customer whose home store is this store).
13 If so, the system proceeds to step 306; if not, the system proceeds to
14 step 304.

15 At step 304, store-level period-based category-related statistics are
16 updated. After performing step 304, the system proceeds to step 306.

17 At step 306, period-based household-level category-related statistics
18 are updated. After performing step 306, the system proceeds to step
19 308.

20 At step 308, a determination is made as to whether the
21 transaction type is a home member, or remote transaction type. If so,
22 the system proceeds to step 310; if not, the system proceeds to step
23 312.

24

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At step 310, household-level statistics are updated. After performing step 310, the system proceeds to step 312.

At step 312, a determination is made as to whether the transaction type is a remote transaction type. If so, the system proceeds to step 316; if not, the system proceeds to step 314.

At step 314, store-level period-based department-related statistics are updated. After performing step 314, the system proceeds to step 316.

At step 316, period-based household-level department-related statistics are updated. After performing step 316, the system proceeds to step 318.

At step 318, a determination is made as to whether the transaction type is a remote transaction. If so, the system proceeds to step 322; if not, the system proceeds to step 320.

At step 320, store-level period-based product-related statistics are updated. After performing step 320, the system proceeds to step 322.

At step 322, period-based household-level product-related statistics are updated. After performing step 322, the system proceeds to step 324.

At step 324, a determination is made as to whether this transaction is a non-remote share-builder transaction. If so, the system proceeds to step 326; if not, this processing is complete.

At step 326, promotional activity statistics are updated. After performing step 326, the system proceeds to step 328.

At step 328, offer statistics are updated for either the home store customer or for the visitor customer. After performing step 328, the system proceeds to step 330.

At step 330, information staged at a kiosk scan are deleted from the POS support table. After performing step 330, processing is completed.

FIG. 18 is a flow chart illustrating the file transfer of shopping trips for visitors from another home store back to their home store, for further analysis at that home store. Whether a customer scanned a card 22 at a kiosk 26 or not, the purchasing history for the customer, or the household, is updated if the customer shops at a store other than the customer's home store and scans the card 22 at a check-out 34 at that (remote) store.

At step 332, the next home store file is selected. After performing step 332, the system proceeds to step 334.

At step 334, the home store network address is determined. After performing step 334, the system proceeds to step 336.

At step 336, the file is transferred to the proper home store. After performing step 336, the system proceeds to step 332 where the next home store file is selected.

FIG. 19 is a flow chart illustrating remote transaction analysis, or the analysis of shopping trips made at another store by customers of this home store.

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1 At step 338, a remote transaction file is read. If no more
2 shopping trips are in the file, processing terminates. After performing
3 step 338, the system proceeds to step 340.

4 At step 340, a determination is made as to whether the card
5 number is on file. If so, the system proceeds to step 346; if not, the
6 system proceeds to step 342.

7 At step 342, a determination is made as to whether automatic
8 addition of card number is permitted. If so, the system proceeds to
9 step 344; if not, the system proceeds to step 338.

10 At step 344, the card number is added to the database as a "new
11 member". After performing step 344, the system proceeds to step 346.

12 At step 346, the transaction is stored in the database as a remote
13 transaction shopping trip. After performing step 346, the system
14 proceeds to step 348.

15 At step 348, database statistics are updated (see FIGS. 15-17).
16 After performing step 348, the system proceeds to step 338.

17 FIG. 20 is a flow chart illustrating deletion of expired special
18 offers. Special offers are valid for a predetermined amount of time
19 after a customer presents a card 22 to the kiosk 26. If the customer
20 does not then present the card 22 to the check-out 34 within a
21 predetermined amount of time, the special offers are canceled by the
22 store level computer 12.

23 At step 350, the next household or visitor household with the flag
24 ("stat = 1") and offer expiration < now is read. If no more

1 households meet the criteria, processing terminates. After performing
2 step 350, the system proceeds to step 352.

3 At step 352, information staged at a kiosk scan is deleted from
4 the POS support table. After performing step 352, the system proceeds
5 to step 354.

6 At step 354, the customer offer status is set back to "A". After
7 performing step 354, the system proceeds to step 350.

8 FIG. 21 is a block diagram illustrating hardware components and
9 cabling that could be employed in a store employing NCR (trademark)
10 check-outs 34. The store level computer 12 communicates with check-
11 outs 34 via a 2127 master 366. The store level computer 12 also
12 communicates with kiosks 26 via an asynchronous expansion board 364.
13 The store level computer 12 is connected to an ethernet network 356,
14 and communicates with a supervisory computer 16 via a router 358, a
15 CSU/DSU 360 connected to the router, and a DEMARK 362 connected
16 to the CSU/DSU, the router being connected to the ethernet network.

17 FIG. 22 is a block diagram illustrating hardware components and
18 cabling that could be employed in a store employing IBM (trademark)
19 check-outs. The store level computer 12 communicates with check-outs
20 34 via a token ring store loop. The store level computer 12 also
21 communicates with kiosks 26 via an asynchronous expansion board 368.
22 The store level computer 12 is connected to an MAU 370, and
23 communicates with a supervisory computer 16 via a router 372, a
24 CSU/DSU 374 connected to the router 372, and DEMARK 376

1 connected to the CSU/DSU, the router 372 being connected to the
2 MAU. The MAU 370 is connected to a 4680 controller 372 and a
3 front office of the store, and the MAU 370 is connected to a 4680
4 controller 374 in the back office of the store. The 4680 controller 374
5 is connected to the store loop 376, and thus to the check-outs 34.

6 In compliance with the statute, the invention has been described
7 in language more or less specific as to structural and methodical
8 features. It is to be understood, however, that the invention is not
9 limited to the specific features shown and described, since the means
10 herein disclosed comprise preferred forms of putting the invention into
11 effect. The invention is, therefore, claimed in any of its forms or
12 modifications within the proper scope of the appended claims
13 appropriately interpreted in accordance with the doctrine of equivalents.
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1 CLAIMS:

2 1. A system for presenting customized special offers to customers, the
3 special offers including targeted offers to a customer selected from a plurality of
4 customers, and for collecting purchasing behavior information concerning the
5 customers, the system comprising:

6 at least one computer including a database containing customer account
7 information providing information specific to a particular customer account;

8 said at least one computer also including a database containing special offers
9 including at least one targeted offer which is to be made to selected customer
10 accounts on the basis of targeted offer targeting parameters;

11 a plurality of customer cards, each customer card having machine readable
12 card information indicating at least identification of the card with a particular
13 customer account;

14 a customer interface in communication with said at least one computer to
15 transfer data therebetween; said customer interface having at least one card reader
16 for reading machine readable card information from said customer card;

17 said at least one computer including means for generating a customized
18 customer offer list available to that particular customer account which includes at
19 least one said special offer;

20 at least one offer communicator for communicating said customer offer list to
21 the customer for which it is generated;

22 at least one check-out at which the customer presents purchased item
23 information indicating items being purchased by the customer; said check-out
24 including a card reader for reading said customer card;

1 said at least one computer including means for sending information from the
2 customized customer offer list to the at least one check-out;

3 said at least one computer further including means for collecting customer
4 purchase information which is indicative of items being purchased by the customer
5 via the check-out;

6 said at least one computer still further including means for editing said
7 customer account information to reflect items purchased by the customer.

8
9 2. A system in accordance with claim 1 wherein the offer communicator
10 comprises a printer.

11
12 3. A system in accordance with claim 1 wherein the card reader of said
13 check-out comprises a bar code reader in communication with the computer, the bar
14 code reader reading the cards in addition to products, the system including means for
15 associating a purchased item with a customer if one of the cards is scanned by the
16 bar code reader in sequence with scanning of products.

17
18 4. A marketing system in accordance with claim 1 wherein the check-out
19 comprises means for totaling the costs of purchases, wherein the system includes
20 means for associating a purchased item with a customer if one of the cards is scanned
21 by the bar code reader in sequence with scanning of products, and wherein the
22 system includes means for adjusting the customer's total to reflect special offers
23 accepted by the customer, and for suspending the accepted special offers from the
24 customer's offer list.

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1 5. A system in accordance with claim 1 and further comprising means for
2 recording that a special offer was not accepted by a customer if the customer does
3 not present a product for which a special offer was available to the check-out within
4 a predetermined amount of time after that customer accessed the customer interface.

5
6 6. A system in accordance with claim 1 wherein the special offers include
7 broadcast, non-targeted, special offers which are generally available to all customers.

8
9 7. A system in accordance with claim 1 wherein the check-out includes a
10 bar code reader, the system further comprising means for downloading, from the
11 computer to the check-out, a list of all products for which special offers exist for at
12 least one customer, means for associating a purchased item with a customer if one
13 of the cards is scanned by the bar code reader in sequence with scanning of a
14 product, means for accessing the computer in response to the bar code reader
15 reading a product included in the list of all products for which special offers may be
16 available and for determining the special offer available to that customer whose card
17 was scanned at the check-out, for that particular product.

18
19 8. A system in accordance with claim 1 and further comprising means for
20 maintaining and for communicating to each customer a running total of savings
21 realized by that customer since the customer started using the card.

1 9. A system in accordance with claim 1 and further comprising means for
2 maintaining for each customer a running total of savings realized by that customer
3 since the customer started using the card, wherein the check-out communicates to
4 each customer a running total of savings realized by that customer since the customer
5 started using the card.

6
7 10. A system in accordance with claim 1 and further comprising means for
8 establishing targeted offer targeting parameters in the form of criteria a customer
9 must meet in order to be eligible for a particular targeted offer, and for determining
10 which customers in the customer account database meet the criteria.

11
12 11. A system in accordance with claim 1 wherein the customer interface is
13 spaced apart from the check-out.

14
15 12. A system in accordance with claim 1 and further comprising means for
16 causing the offer communicator to communicate a predetermined number of special
17 offers available to a particular customer in response to the customer presenting the
18 customer's card to the customer interface, the predetermined number being the same
19 for all customers who use the customer interface.

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13. A system in accordance with claim 1 wherein the offer communicator comprises a printer, and wherein the system further comprises means for causing the printer to print a predetermined number of special offers available to a particular customer absent any selection by the customer accessing the customer interface, the predetermined number being the same for all customers that use the customer interface.

14. A system in accordance with claim 1 wherein the offer communicator comprises a printer, wherein the system further comprises means for sending to the printer a predetermined number of special offers available to a particular customer in response to the customer causing the card reader of the customer interface to read the customer's card, wherein the predetermined number is the same for all customers who use the customer interface, and wherein the predetermined number of special offers are the highest value special offers available to the particular customer.

15. A system in accordance with claim 1 wherein the offer communicator comprises a printer, wherein the system further comprises means for sending to the printer a predetermined number of special offers available to a particular customer in response to the customer causing the card reader of the customer interface to read the customer's card, wherein the predetermined number is the same for all customers who use the customer interface, and wherein the predetermined number of special offers are the highest value special offers available to the particular customer, calculated on the basis of percentage reduction in price.

16. A system in accordance with claim 1 and further comprising lottery means for randomly selecting customers for prize awards, the lottery means including means for causing the offer communicator to indicate to the customer the prize awarded.

17. A system in accordance with claim 1 and comprising a plurality of computers associated with a plurality of stores, wherein each customer is associated with one of the stores, wherein their card has machine readable information indicating their home store, and wherein the customer account information for the customers are respectively stored in the computers of their home stores.

18. A system in accordance with claim 1 wherein the offer communicator comprises a printer capable of printing at least 500 lines per minute.

19. A system in accordance with claim 1 and further comprising means for preventing a special offer from being communicated by the offer communicator if the product associated with the special offer is out of stock.

20. A system in accordance with claim 1 and further comprising means defining a frequent shopper program including means for providing points to customers based on usage of the customer interface.

21. A system in accordance with claim 1 and further comprising means for presetting a date and time on which a special offer will automatically expire.

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1 22. A system in accordance with claim 1 and further comprising means for
2 defining categories of products, and means for providing category exclusivity, wherein
3 system only permits special offers for one brand of product per category.
4

5 23. A system in accordance with claim 1 and further comprising means for
6 automatically increasing the value of a special offer available to a customer for a
7 product if the customer previously did not purchase that product after the offer
8 communicator communicated a discount for that product to the customer, and means
9 for communicating the increased value special offer to the customer when the
10 customer subsequently presents the customer's card to the customer interface.
11

12 24. A system in accordance with claim 1 and further comprising means for
13 generating a report of the effectiveness of special offers in causing customers to
14 purchase products.
15

16 25. A system in accordance with claim 1 wherein said at least one computer
17 comprises a store level computer, a regional computer in communication with the
18 store level computer, and a supervisory computer in communication with the regional
19 computer, and wherein the customer account information is located on at least one
20 of the store level computer, the regional computer, and the supervisory computer.
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offer communicator means for communicating respective individualized lists of special offers to customers who access the customer interface.

28. A system in accordance with claim 27 wherein the offer communicator means comprise printers.

29. A system in accordance with claim 27 and further comprising check-outs in respective stores, wherein the check-outs respectively including bar code readers, wherein the check-outs are in communication with respective store level computers, wherein the bar code readers read the cards in addition to products, wherein the system includes means for associating a purchased product with a customer account if one of the cards is scanned by the bar code reader in sequence with scanning of products.

30. A system in accordance with claim 27 and further comprising check-outs in respective stores, the check-outs respectively including bar code readers, the check-outs being in communication with respective store level computers, wherein the check-out comprises means for totaling the costs of purchases, wherein the system includes means for associating a purchased item with a customer account if one of the cards is scanned by the bar code reader in sequence with scanning of products, and wherein the system includes means for adjusting the customer's total to reflect special offers accepted by the customer, and for deleting the accepted special offers from the customer's offer list.

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1 31. A system in accordance with claim 30 and further comprising means for
2 recording that a special offer was not accepted by a customer if the customer does
3 not present a product for which a special offer was available to the check-out within
4 a predetermined amount of time after that customer accessed the customer interface.

5
6 32. A system in accordance with claim 27 wherein the special offers include
7 broadcast, non-targeted, special offers which are generally available to all customers.

8
9 33. A system in accordance with claim 30 wherein the system further
10 comprising means for downloading, from the store level computers to the respective
11 check-outs, a list of all products for which special offers exist for at least one
12 customer, means for associating a purchased item with a customer account if one of
13 the cards is scanned by one of the bar code readers in sequence with scanning of a
14 product, means for accessing the store level computer in response to the bar code
15 reader reading a product included in the list of all products for which special offers
16 may be available and for determining the special offer available to that customer
17 whose card was scanned at the check-out, for that particular product.

18
19 34. A system in accordance with claim 27 and further comprising means for
20 maintaining and for communicating to each customer a running total of savings
21 realized by that customer since the customer started using the card.

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1 41. A system in accordance with claim 27 wherein the offer communicator
2 means comprise respective printers, wherein the system further comprises means for
3 sending to one of the printers a predetermined number of special offers available to
4 a particular customer in response to the customer causing the card reader of one of
5 the customer interfaces to read the customer's card, wherein the predetermined
6 number is the same for all customers who use the customer interface, and wherein
7 the predetermined number of special offers are the highest value special offers
8 available to the particular customer, calculated on the basis of percentage reduction
9 in price.

10
11 42. A system in accordance with claim 27 and further comprising lottery
12 means for randomly selecting customers for prize awards, the lottery means including
13 means for causing the offer communicator means to indicate to the customer the
14 prize awarded.

15
16 43. A system in accordance with claim 27 wherein the store level computers
17 define home stores for customer accounts such that each customer account has one
18 home store, wherein the cards further include machine readable information
19 indicating their home store, and wherein the customer account information for the
20 customers are respectively stored in the store level computers of their home stores.

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1 44. A system in accordance with claim 27 wherein the store level computers
2 define home stores for customer accounts such that each customer account has one
3 home store, wherein the cards further include machine readable information
4 indicating their home store, wherein the customer account information for the
5 customers are respectively stored in the store level computers of their home stores,
6 and wherein if a customer uses their card at a customer interface in a store other
7 than their home store, the store level computer communicates with the customers
8 home store and the customer's account is accessed even though the customer is not
9 in their home store.

10
11 45. A system in accordance with claim 27 wherein the offer communicator
12 means comprise respective printers capable of printing at least 500 lines per minute.

13
14 46. A system in accordance with claim 27 and further comprising means for
15 preventing a special offer from being communicated by the offer communicator
16 means if the product associated with the special offer is out of stock.

17
18 47. A system in accordance with claim 27 and further comprising means
19 defining a frequent shopper program including means for providing points to
20 customers based on usage of the customer interface.

21
22 48. A system in accordance with claim 27 and further comprising means for
23 presetting a date and time on which a special offer will automatically expire.
24

1 52. A system for a chain of stores for presenting customized special offers
2 to customers, the special offers including targeted offers to a customer selected from
3 a plurality of customers, the system comprising:

4 a plurality of store level computers, respective store level computers being
5 associated with respective stores, the store computers respectively including a
6 database containing customer account information providing information specific to
7 individual customers including information regarding customer purchases, the store
8 level computers respectively including a database containing special offers including
9 at least one targeted offer which is to be made to selected customer accounts on the
10 basis of targeted offer targeting parameters;

11 a plurality of cards, each card having thereon machine readable information
12 associating the card with a particular customer account and with a particular store in
13 the chain;

14 regional computers networked to groups of store level computers, the regional
15 computers periodically downloading special offers to the store level computers,
16 groups of store level computers defining respective chains of stores;

17 a supervisory computer networked to the regional computers, the regional
18 computers periodically downloading special offers to the store level computers;

19 a plurality of customer interfaces, respective customer interfaces being located
20 in respective stores and being in communication with the store level computer
21 associated with that store, the customer interfaces having respective card readers
22 including means for receiving the cards, for reading the machine readable information
23 on the cards, for sending the read information to the store level computer associated
24 with that store;

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1 a plurality of offer communicator means, respective offer communicator means
2 being located in respective stores and being in communication with the store level
3 computer associated with that store, respective offer communicator means being
4 housed with respective customer interfaces;

5 means for accessing customer account information for a particular customer
6 in response to the card reader sending read information to a store level computer,
7 for generating an individualized list of special offers available to that particular
8 customer, and for sending the list of special offers to the offer communicator housed
9 with the card reader that sent the read information;

10 the customer interfaces respectively including means for communicating
11 respective individualized lists of special offers to customers who access the customer
12 interfaces;

13 check-outs, including respective bar code readers, connected to respective
14 store level computers, the bar code readers reading the cards in addition to products,
15 the system including means for associating a purchased item with a customer account
16 if one of the cards is scanned by the bar code reader in sequence with scanning of
17 products, for storing customer purchase information in the database in the store level
18 computer; and

19 means for uploading from the store level computers to the regional computers
20 data identifying purchases made by individual customers.

21
22 53. A system in accordance with claim 52 wherein the offer communicator
23 means comprise printers.
24

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1 54. A system in accordance with claim 52 wherein the check-outs
2 respectively comprise means for totaling the costs of purchases, and wherein the
3 system includes means for adjusting the customer's total to reflect special offers
4 accepted by the customer, and for deleting the accepted special offers from the
5 customer's offer list.

6
7 55. A system in accordance with claim 52 and further comprising means for
8 recording that a special offer was not accepted by a customer if the customer does
9 not present a product for which a special offer was available to a check-out within
10 a predetermined amount of time after that customer accessed a customer interface.

11
12 56. A system in accordance with claim 52 wherein the special offers include
13 broadcast, non-targeted, special offers which are generally available to all customers
14 of a chain.

15
16 57. A system in accordance with claim 52 wherein the system further
17 comprising means for downloading, from the store level computers to the respective
18 check-outs, a list of all products for which special offers exist for at least one
19 customer, means for accessing the store level computer in response to the bar code
20 reader reading a product included in the list of all products for which special offers
21 may be available and for determining the special offer available to that customer
22 whose card was scanned at the check-out, for that particular product.

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1 58. A system in accordance with claim 52 and further comprising means for
2 maintaining and for communicating to each customer a running total of savings
3 realized by that customer since the customer started using the card.

4
5 59. A system in accordance with claim 52 and further comprising means for
6 maintaining for each customer a running total of savings realized by that customer
7 since the customer started using the card, wherein the check-outs communicate to the
8 customers a running total of savings realized by each customer since the customer
9 started using the card.

10
11 60. A system in accordance with claim 52 and further comprising means for
12 establishing targeted offer targeting parameters in the form of criteria a customer
13 must meet in order to be eligible for a particular targeted offer, and for determining
14 which customers in the customer account databases meet the criteria.

15
16 61. A system in accordance with claim 52 wherein the customer interfaces
17 are respectively spaced apart from the check-outs in each store.

18
19 62. A system in accordance with claim 52 and further comprising means for
20 causing one of the offer communicator means to print a predetermined number of
21 special offers available to a particular customer in response to the customer
22 presenting the customer's card to one of the customer interfaces, the predetermined
23 number being the same for all customers of a chain who use the customer interfaces.
24

65. A system in accordance with claim 52 wherein the offer communicator means comprise respective printers, wherein the system further comprises means for sending to one of the printers a predetermined number of special offers available to a particular customer in response to the customer causing the card reader of one of the customer interfaces to read the customer's card, wherein the predetermined number is the same for all customers who use the customer interface, and wherein the predetermined number of special offers are the highest value special offers available to the particular customer, calculated on the basis of percentage reduction in price.

66. A system in accordance with claim 52 and further comprising lottery means for randomly selecting customers for prize awards, the lottery means including means for causing the offer communicator means to indicate to the customer the prize awarded.

67. A system in accordance with claim 52 wherein the store level computers define home stores for customer accounts such that each customer account has one home store, wherein the cards further include machine readable information indicating their home store, and wherein the customer account information for the customers are respectively stored in the store level computers of their home stores.

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1 68. A system in accordance with claim 52 wherein the store level computers
2 define home stores for customer accounts such that each customer account has one
3 home store, wherein the cards further include machine readable information
4 indicating their home store, wherein the customer account information for the
5 customers are respectively stored in the store level computers of their home stores,
6 and wherein if a customer uses their card at a customer interface in a store other
7 than their home store, the store level computer communicates with the customers
8 home store and the customer's account is accessed even though the customer is not
9 using the customer interface of their home store.

10
11 69. A system in accordance with claim 52 wherein the offer communicator
12 means comprise respective printers capable of printing at least 500 lines per minute.

13
14 70. A system in accordance with claim 52 wherein the store level computers
15 respectively include means for preventing a special offer from being communicated
16 by the offer communicator means if the product associated with the special offer is
17 out of stock.

18
19 71. A system in accordance with claim 52 and further comprising means
20 defining a frequent shopper program including means for providing points to
21 customers based on usage of the customer interface.

22
23 72. A system in accordance with claim 52 and further comprising means for
24 presetting a date and time on which a special offer will automatically expire.

73. A system in accordance with claim 52 and further comprising means for defining, using the supervisory computer, categories of products, and means for providing category exclusivity within a chain, wherein the system only permits special offers for one brand of product per category in that chain.

74. A system in accordance with claim 52 and further comprising means for automatically increasing the value of a special offer available to a customer for a product if the customer previously did not purchase that product after one of the offer communicators communicated a discount for that product to the customer, and means for communicating the increased value special offer to the customer when the customer subsequently presents the customer's card to one of the customer interfaces.

75. A system in accordance with claim 52 wherein the regional computer further comprises means for generating a report for a chain of the effectiveness of special offers in causing customers to purchase products.

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1 76. A method of presenting customized special offers to customers, the
2 special offers including targeted offers to a customer selected from a plurality of
3 customers, and for collecting purchasing behavior information concerning the
4 customers, the method comprising the steps of:

5 providing a computer;

6 defining, using the computer, a database containing customer account
7 information including purchases made by each customer;

8 defining, using the computer, a database containing special offers including at
9 least one targeted offer which is to be made to selected customer accounts on the
10 basis of targeted offer targeting parameters;

11 providing cards to customers, the cards containing unique machine readable
12 information identifying customers;

13 providing a customer interface including a card reader for reading the cards,
14 and associating cards with customer accounts;

15 generating a customized customer offer list available to a particular customer
16 account which includes at least one said special offer in response to that customer
17 accessing the customer interface;

18 providing an offer communicator for communicating said customer offer list
19 to the customer for which it is generated;

20 providing at least one check-out at which the customer presents purchased
21 item information indicating items being purchased by the customer; the check-out
22 including a bar code reader for reading said customer card and for reading prices of
23 products;

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1 81. A method in accordance with claim 76 and further comprising the step
2 of downloading, from the computer to the check-out, a list of all products for which
3 special offers may exist for customers, associating a purchased item with a customer
4 if one of the cards is scanned by the bar code reader in sequence with scanning of
5 a product, accessing the computer in response to the bar code reader reading a
6 product included in the list of all products for which special offers may be available
7 and determining the special offer available to that customer whose card was scanned
8 at the check-out, for that particular product.

9
10 82. A method in accordance with claim 76 and further comprising the step
11 of maintaining and communicating to each customer a running total of savings
12 realized by that customer since the customer started using the card.

13
14 83. A method in accordance with claim 76 and further comprising the step
15 of establishing targeted offer targeting parameters in the form of criteria a customer
16 must meet in order to be eligible for a particular targeted offer, and of determining
17 which customers in the customer account database meet the criteria.
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84. A method in accordance with claim 76 and further comprising the step of communicating a predetermined number of special offers available to a particular customer in response to the customer causing the card reader of the customer interface to read the customer's card, wherein the predetermined number is the same for all customers who use the customer interface, and wherein the predetermined number of special offers are the highest value special offers available to the particular customer, calculated on the basis of percentage reduction in price.

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1 85. A method of presenting customized special offers to customers of a
2 chain of stores, the special offers including targeted offers to a customer selected
3 from a plurality of customers, and for collecting purchasing behavior information
4 concerning the customers, the method comprising the steps of:

5 providing a plurality of store level computers, respective store level computers
6 being associated with respective stores;

7 providing a supervisory computer and networking the supervisory computer
8 to the store level computers, causing the supervisory computer to periodically
9 download special offers to the store level computers;

10 defining, using the store level computers, respective databases containing
11 customer account information including purchases made by each customer;

12 defining, using the store level computers, respective databases containing
13 special offers including at least one targeted offer which is to be made to selected
14 customer accounts on the basis of targeted offer targeting parameters;

15 providing cards to customers, the cards containing unique machine readable
16 information associating the card with particular customer account information and
17 with a particular store in the chain;

18 providing a plurality of customer interfaces, respective customer interfaces
19 being located in respective stores and being in communication with the store level
20 computer associated with that store, the customer interfaces respectively including
21 card readers for reading the machine readable information on the cards, and causing
22 the customer interfaces to send information from the card to the store level computer
23 associated with that store when that customer interface reads a card;

24

generating a customized customer offer list available to a particular customer account which includes at least one said special offer in response to that customer accessing one of the customer interfaces;

providing a plurality of offer communicators, respective offer communicators being located in respective stores and being in communication with the store level computer associated with that store, causing respective offer communicators to communicating the customer offer list to the customer for which the list is generated;

providing a plurality of check-outs, respective check-outs being located in respective stores and being in communication with the store level computer associated with that store, at which the customer presents purchased item information indicating items being purchased by the customer; the check-out including a bar code reader for reading said customer card and for reading prices of products;

sending information from the customized customer offer list to a check-out in a store when a customer's card is scanned by the check-out card reader in the same store; and

using the check-outs and the store level computers to collect customer purchase information which is indicative of items purchased by individual customers via the check-out and storing customer purchase information in the customer account databases.

86. A method in accordance with claim 85, 94 and further comprising the step of associating a purchased item with a customer account if one of the cards is scanned by the bar code reader in sequence with scanning of products and prior to totalling the cost of the customer's purchases.

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1 87. A method in accordance with claim 85 and further comprising the step
2 of adjusting the customer's total to reflect special offers accepted by the customer,
3 and of deleting the accepted special offers from the customer's offer list.

4
5 88. A method in accordance with claim 85 and further the step of recording
6 that a special offer was not accepted by a customer if the customer does not present
7 a product, for which a special offer was available, to a check-out in a store within a
8 predetermined amount of time after that customer accessed the customer interface
9 in the same store.

10
11 89. A method in accordance with claim 85 wherein the special offers
12 include broadcast, non-targeted, special offers which are generally available to all
13 customers.

14
15 90. A method in accordance with claim 85 and further comprising the step
16 of downloading, from a store level computer in a store to the check-out in the same
17 store, a list of all products for which special offers may exist for customers,
18 associating a purchased item with a customer if one of the cards is scanned by the
19 bar code reader in sequence with scanning of a product, accessing the store level
20 computer associated with the store where the customer's card was scanned in
21 response to the bar code reader reading a product included in the list of all products
22 for which special offers may be available and determining the special offer available
23 to that customer whose card was scanned at the check-out, for that particular
24 product.

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1 91. A method in accordance with claim 85 and further comprising the step
2 of maintaining and communicating to each customer a running total of savings
3 realized by that customer since the customer started using the card.

4
5 92. A method in accordance with claim 85 and further comprising the step
6 of using the supervisory computer to establish targeted offer targeting parameters in
7 the form of criteria a customer must meet in order to be eligible for a particular
8 targeted offer, and of determining which customers in the customer account database
9 meet the criteria.

10
11 93. A method in accordance with claim 85 and further comprising the step
12 of communicating a predetermined number of special offers available to a particular
13 customer in response to the customer causing one of the card readers to read the
14 customer's card, wherein the predetermined number is the same for all customers of
15 the chain, and wherein the predetermined number of special offers include the
16 highest value special offers available to the particular customer, calculated on the
17 basis of percentage reduction in price.

1 card readers for reading the machine readable information on the cards, and causing
2 the customer interfaces to send information from the card to the store level computer
3 associated with that store when that customer interface reads a card;

4 generating a customized customer offer list available to a particular customer
5 account which includes at least one said special offer in response to that customer
6 accessing one of the customer interfaces;

7 providing a plurality of offer communicators, respective offer communicators
8 being located in respective stores and being in communication with the store level
9 computer associated with that store, causing respective offer communicators to
10 communicating the customer offer list to the customer for which the list is generated;

11 providing a plurality of check-outs, respective check-outs being located in
12 respective stores and being in communication with the store level computer
13 associated with that store, at which the customer presents purchased item information
14 indicating items being purchased by the customer; the check-out including a bar code
15 reader for reading said customer card and for reading prices of products;

16 sending information from the customized customer offer list to a check-out in
17 a store when a customer's card is scanned by the check-out card reader in the same
18 store;

19 using the check-outs and the store level computers to collect customer
20 purchase information which is indicative of items purchased by individual customers
21 via the check-out and storing customer purchase information in the customer account
22 databases; and

23 uploading from the store level computers to the regional computers data
24 identifying purchases made by individual customers.

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1 95. A method in accordance with claim 94 and further comprising the step
2 of associating a purchased item with a customer account if one of the cards is
3 scanned by the bar code reader in sequence with scanning of products and prior to
4 totalling the cost of the customer's purchases.

5
6 96. A method in accordance with claim 94 and further comprising the step
7 of adjusting the customer's total to reflect special offers accepted by the customer,
8 and of deleting the accepted special offers from the customer's offer list.

9
10 97. A method in accordance with claim 94 and further the step of recording
11 that a special offer was not accepted by a customer if the customer does not present
12 a product, for which a special offer was available, to a check-out in a store within a
13 predetermined amount of time after that customer accessed the customer interface
14 in the same store.

15
16 98. A method in accordance with claim 94 wherein the special offers
17 include broadcast, non-targeted, special offers which are generally available to all
18 customers.

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1 99. A method in accordance with claim 94 and further comprising the step
2 of downloading, from a store level computer in a store to the check-out in the same
3 store, a list of all products for which special offers may exist for customers,
4 associating a purchased item with a customer if one of the cards is scanned by the
5 bar code reader in sequence with scanning of a product, accessing the store level
6 computer associated with the store where the customer's card was scanned in
7 response to the bar code reader reading a product included in the list of all products
8 for which special offers may be available and determining the special offer available
9 to that customer whose card was scanned at the check-out, for that particular
10 product.

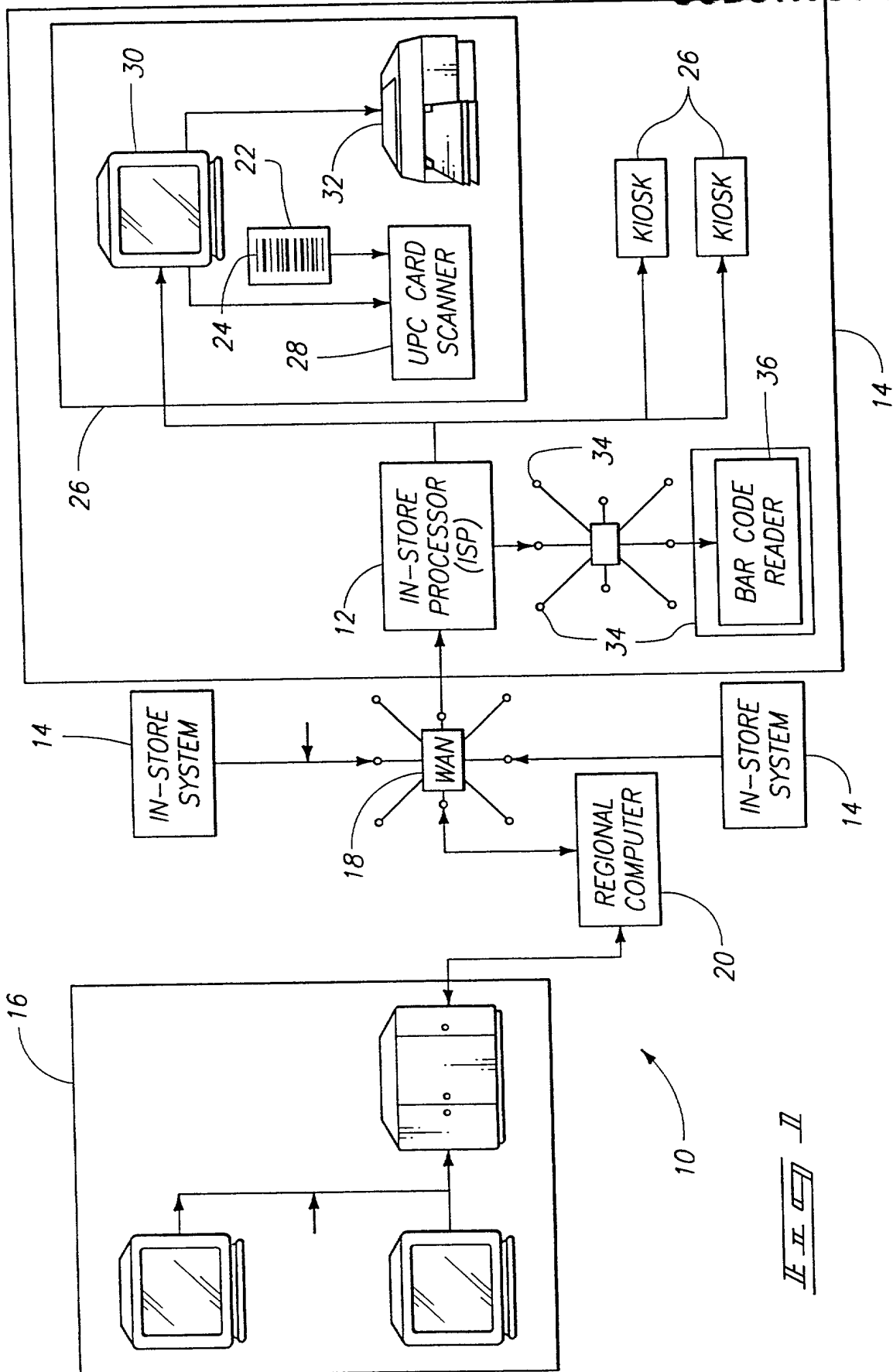
11
12 100. A method in accordance with claim 94 and further comprising the step
13 of using the supervisory computer to establish targeted offer targeting parameters in
14 the form of criteria a customer must meet in order to be eligible for a particular
15 targeted offer, and of determining which customers in the customer account database
16 meet the criteria.

17
18 101. A method in accordance with claim 94 and further comprising the step
19 of communicating a predetermined number of special offers available to a particular
20 customer in response to the customer causing one of the card readers to read the
21 customer's card, wherein the predetermined number is the same for all customers of
22 the chain, and wherein the predetermined number of special offers include the
23 highest value special offers available to the particular customer, calculated on the
24 basis of percentage reduction in price.

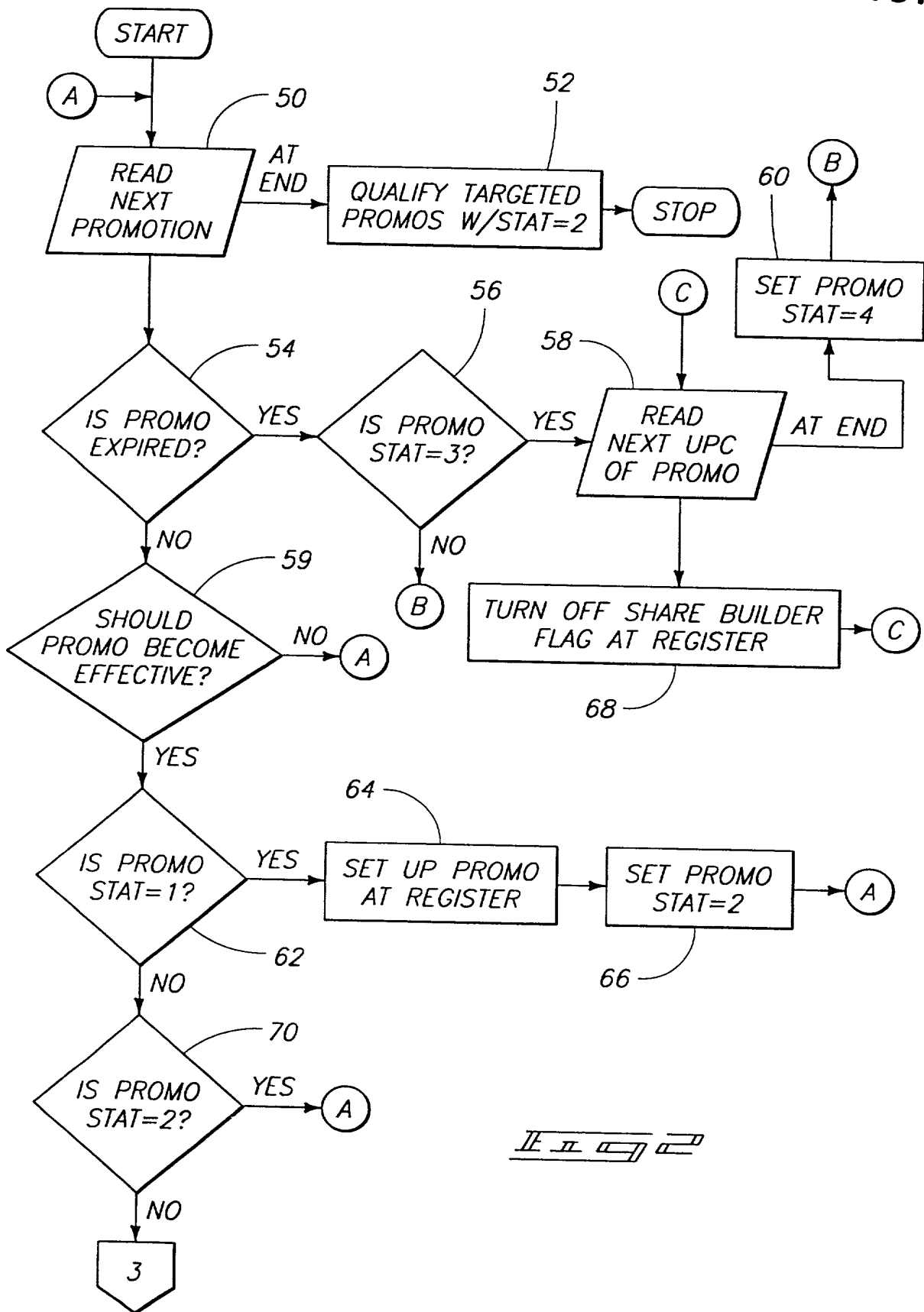
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ABSTRACT OF THE DISCLOSURE

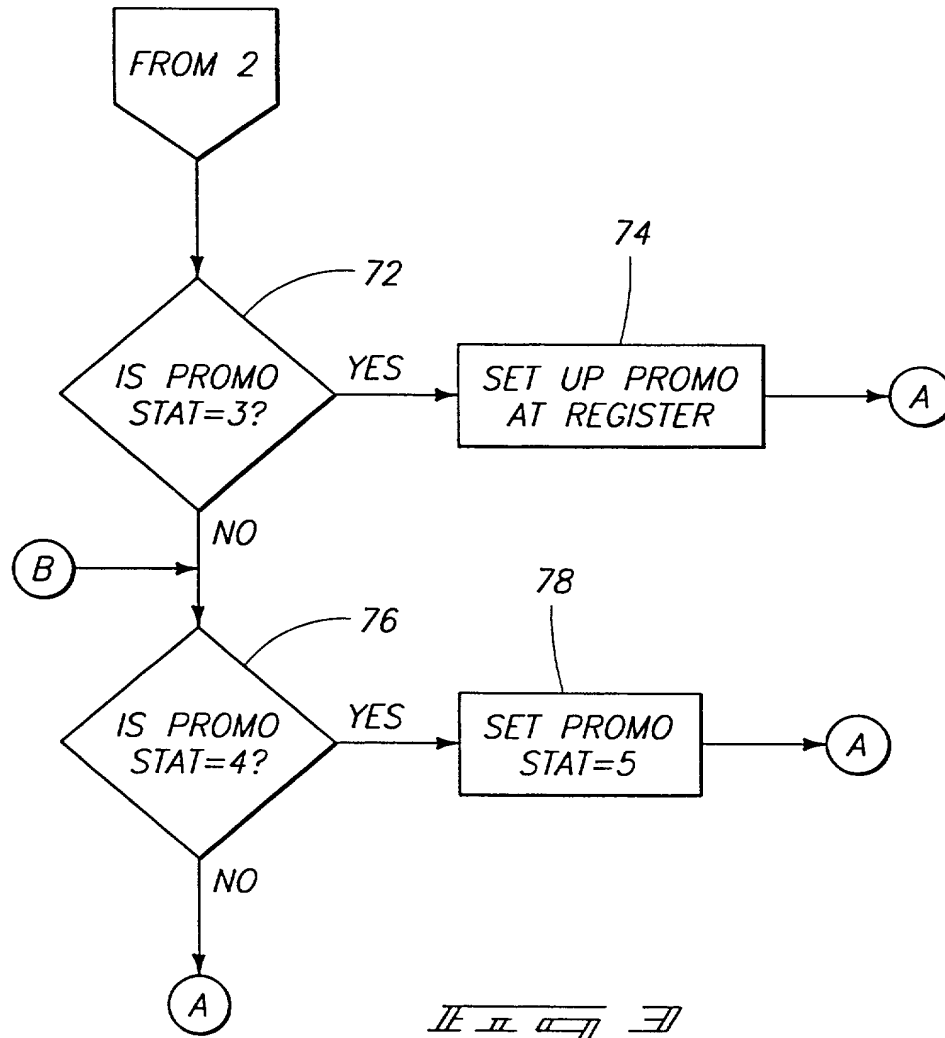
A system for presenting customized special offers to customers, the special offers including targeted offers to a customer selected from a plurality of customers, and for collecting purchasing behavior information concerning the customers, the system comprising a computer including a database containing customer account information providing information specific to a particular customer account; the at computer also including a database containing special offers including a targeted offer which is to be made to selected customer accounts on the basis of targeted offer targeting parameters; a plurality of customer cards, each customer card having machine readable card information indicating at least identification of the card with a particular customer account; a customer interface in communication with the computer to transfer data therebetween; the customer interface having a card reader for reading machine readable card information from the customer card; the computer including means for generating a customized customer offer list available to that particular customer account which includes the special offer; an offer communicator for communicating the customer offer list to the customer for which it is generated; a check-out at which the customer presents purchased item information indicating items being purchased by the customer; the check-out including a card reader for reading the customer card; the computer including means for sending information from the customized customer offer list to the check-out; the computer further including means for collecting customer purchase information which is indicative of items being purchased by the customer via the check-out; the computer still further including means for editing the customer account information to reflect items purchased by the customer.

$$\frac{\pi}{\pi + \pi}$$


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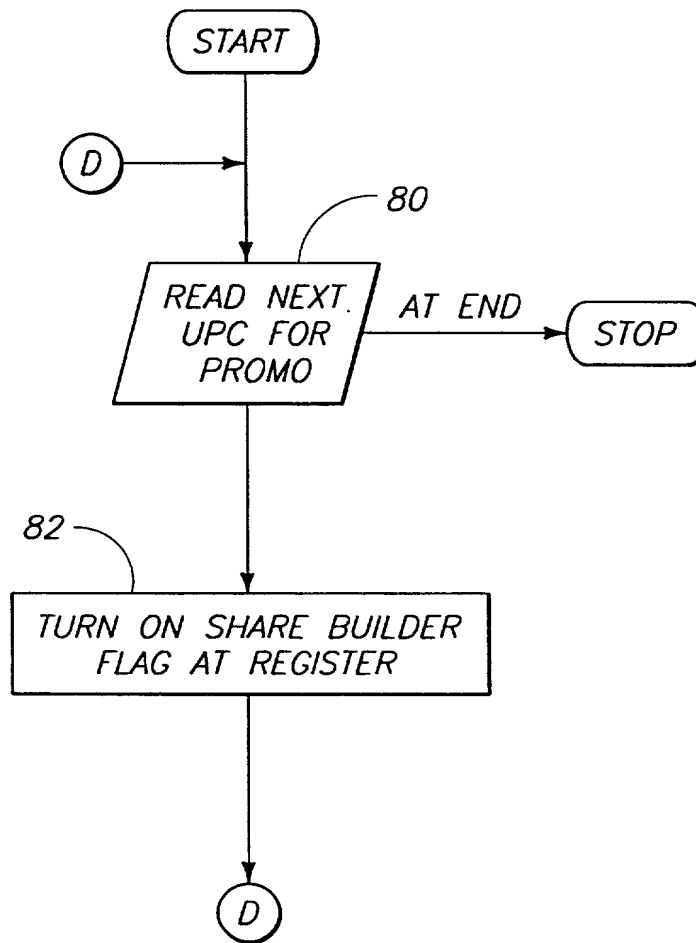
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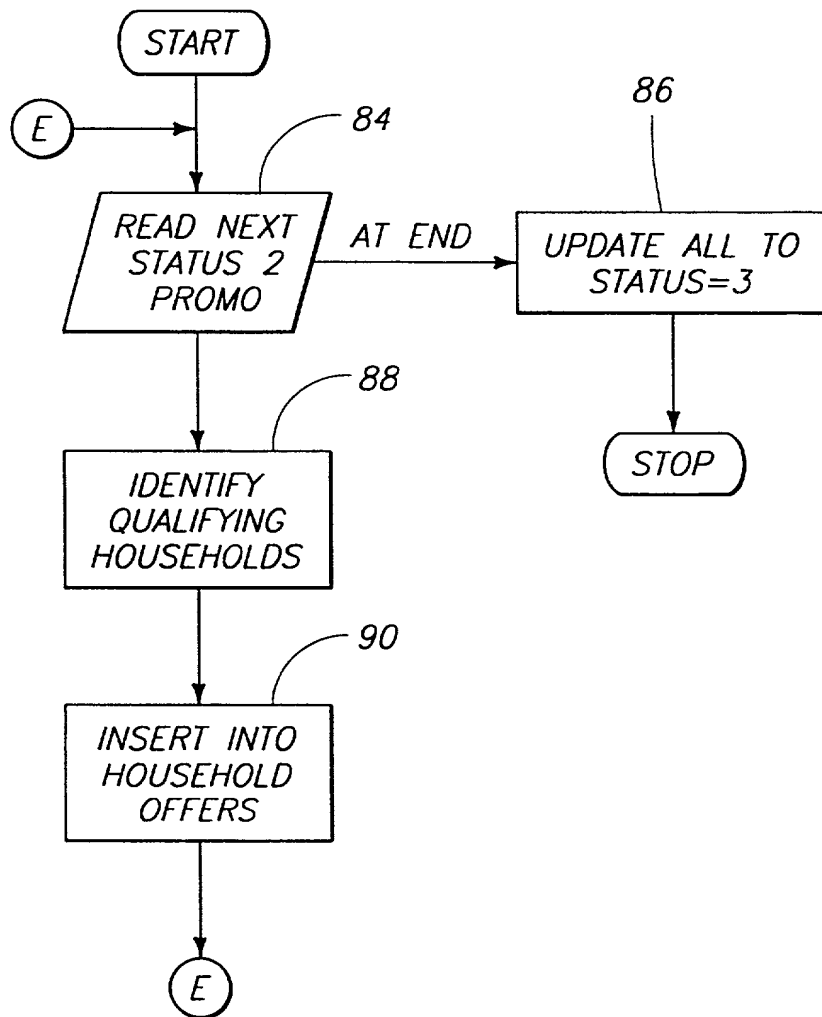
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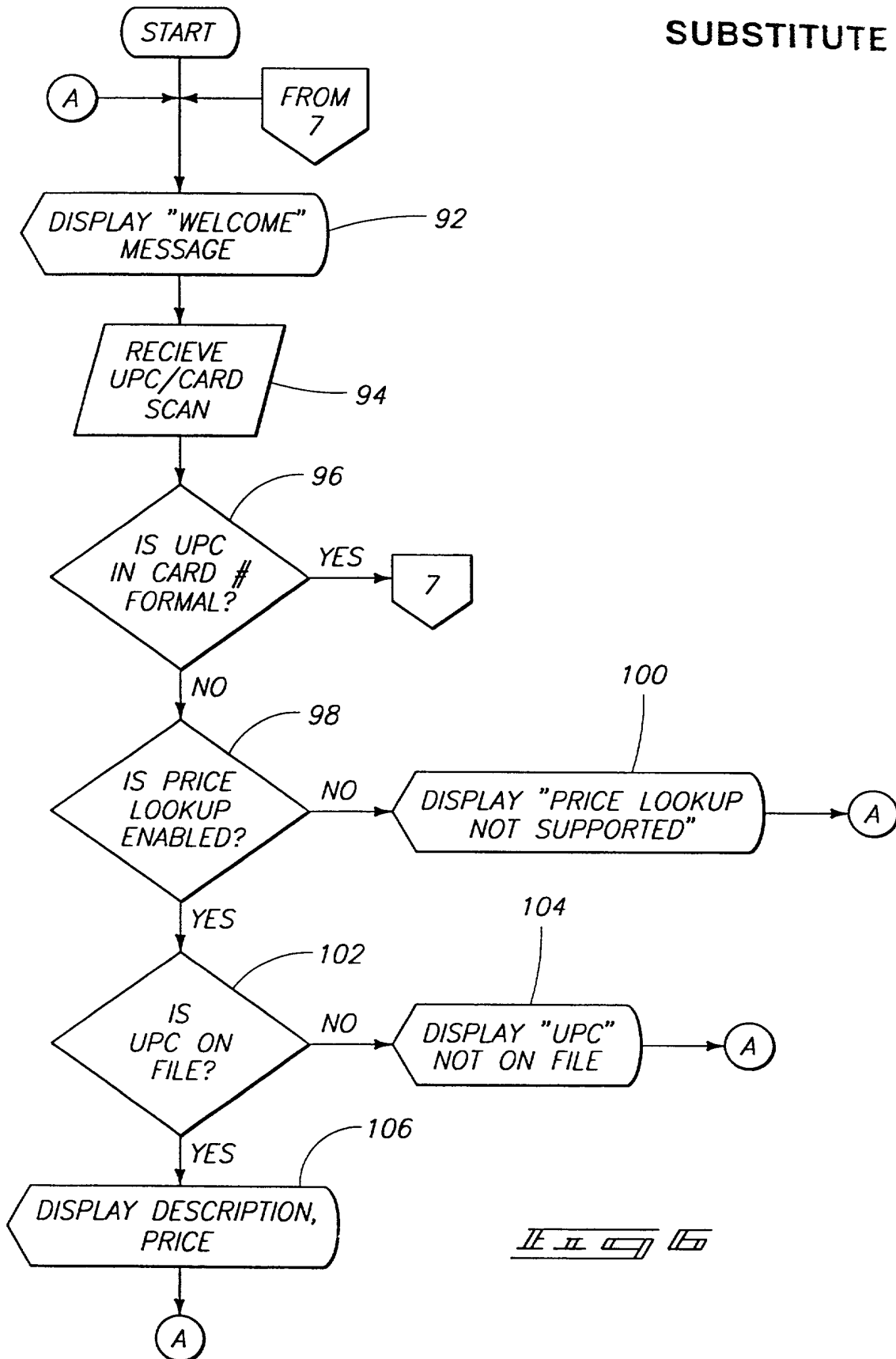
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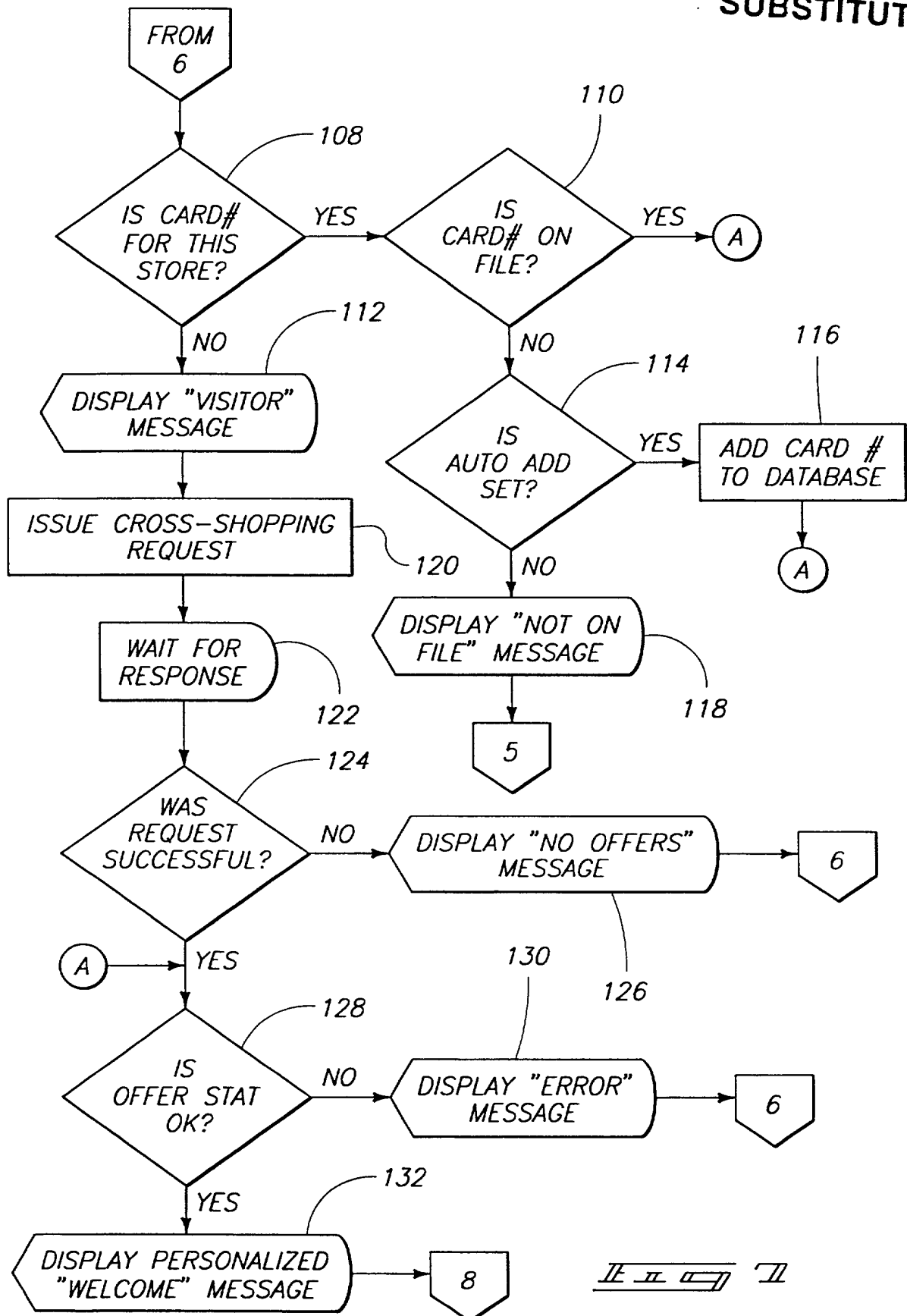
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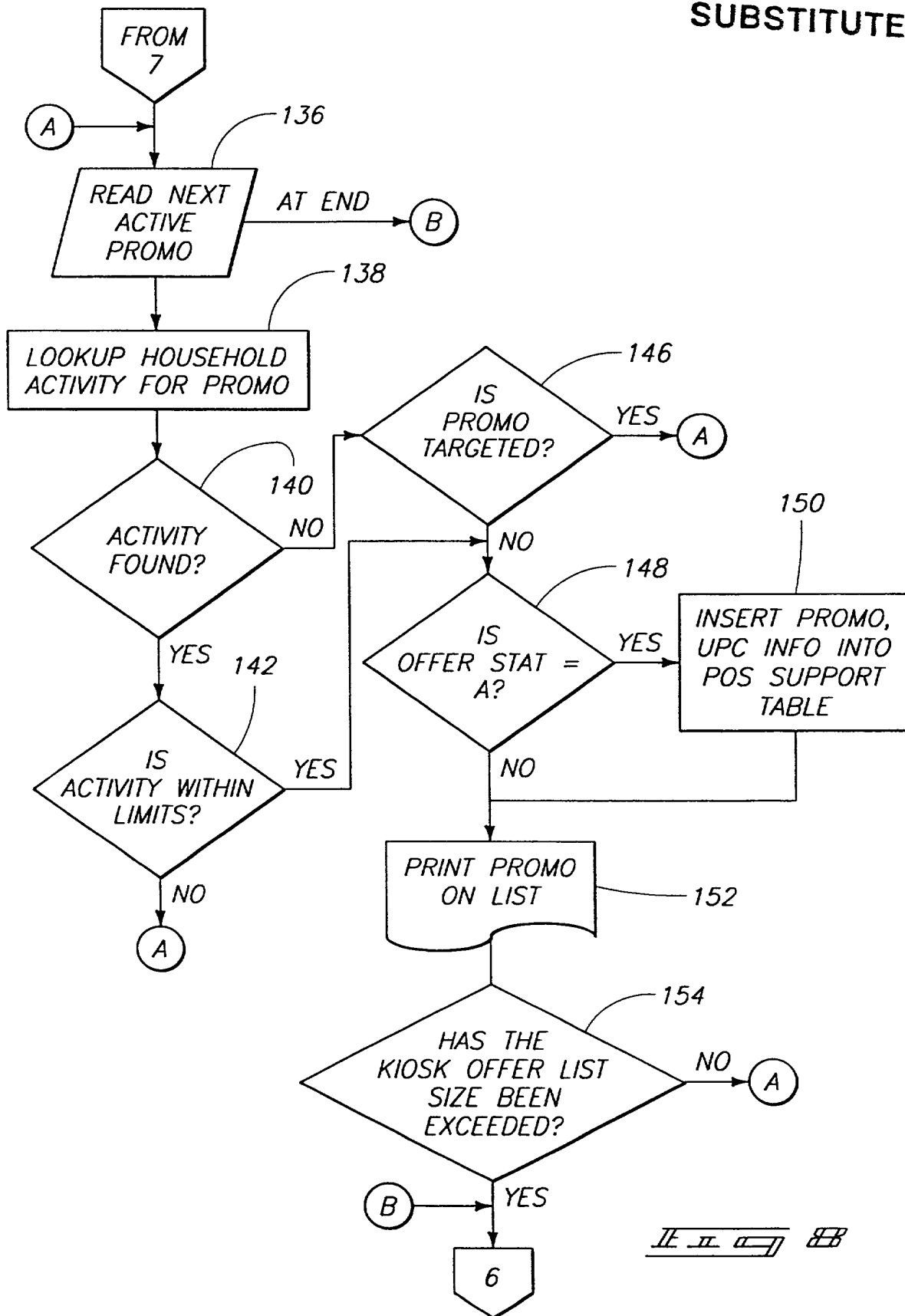
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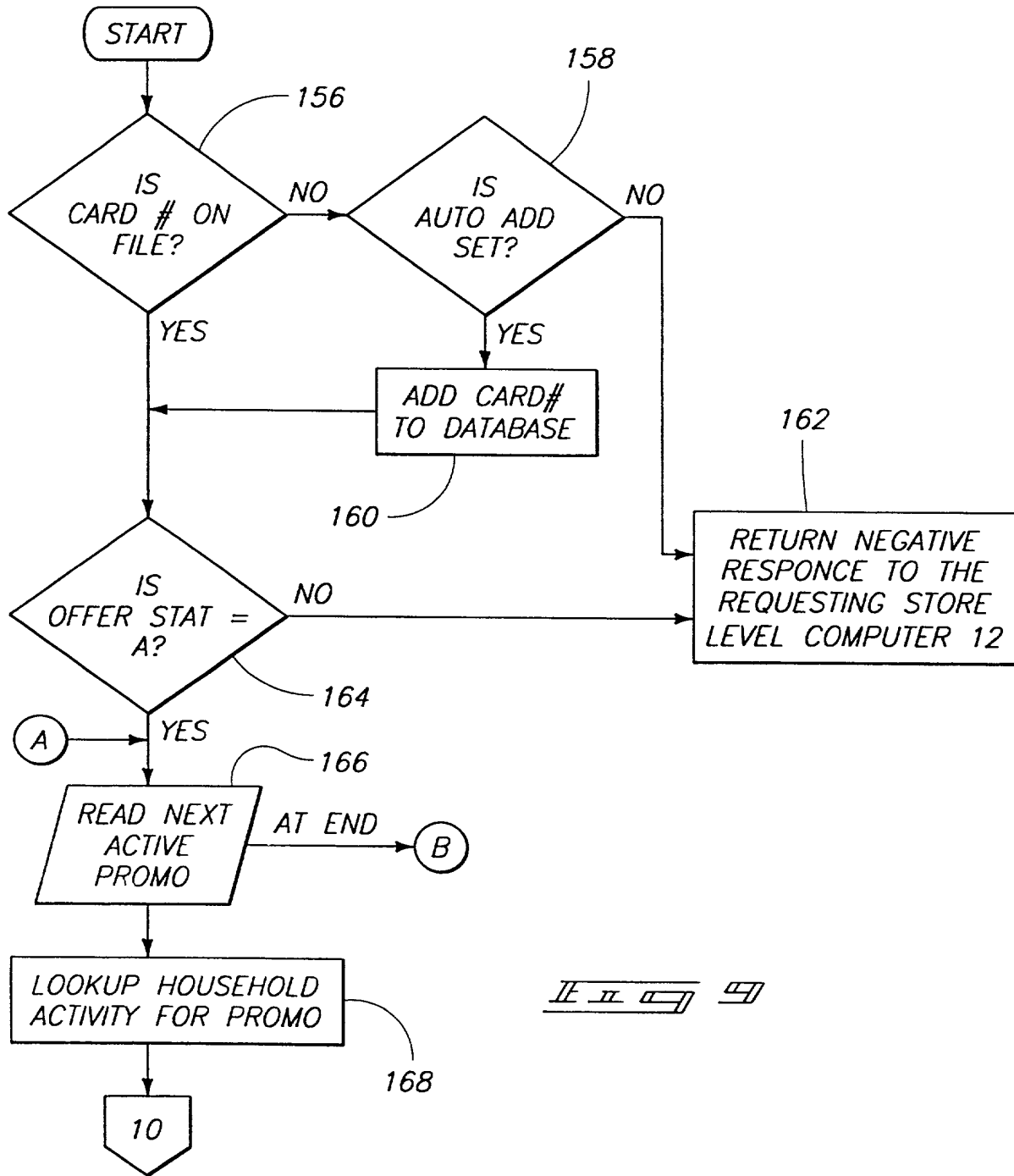
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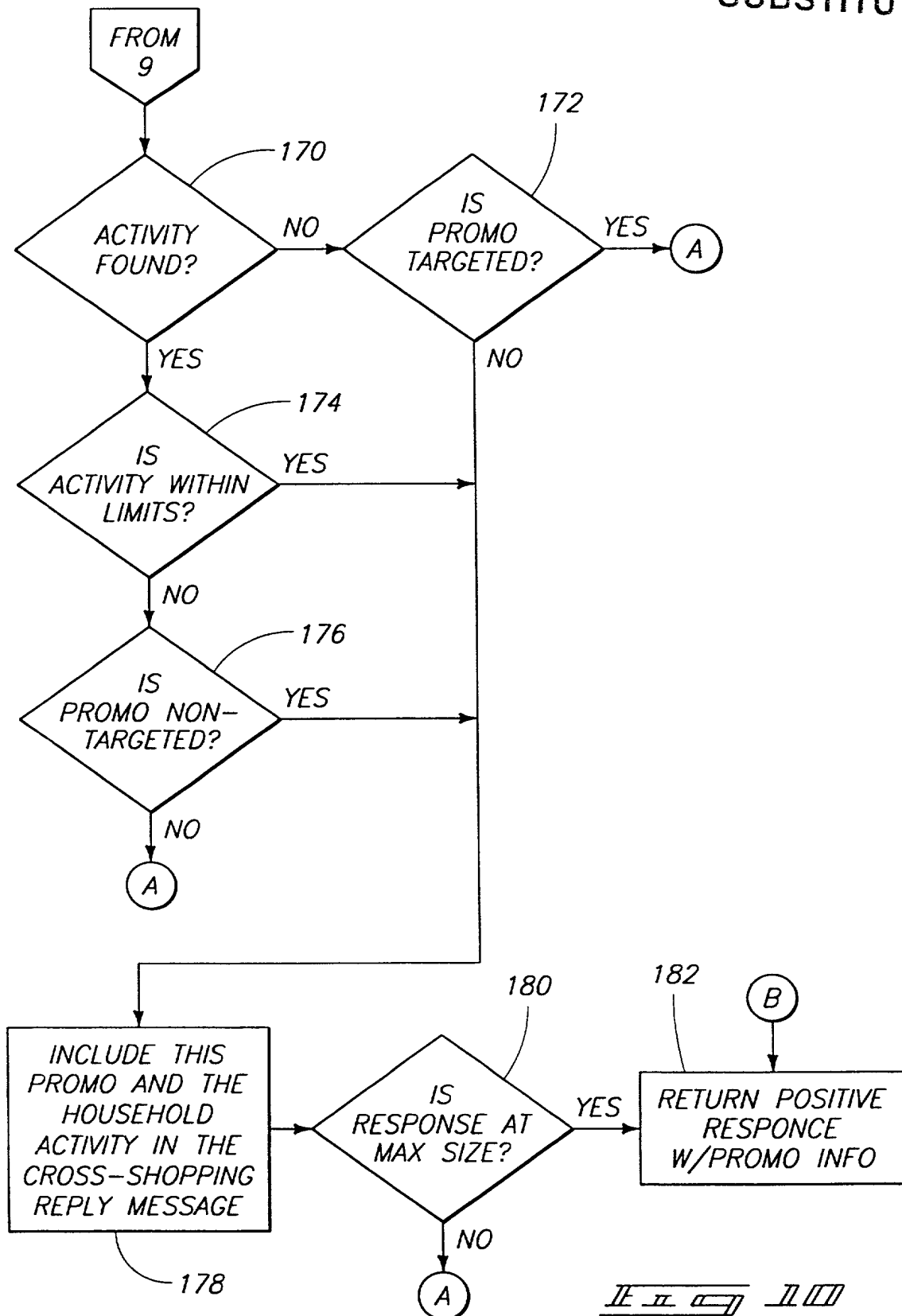
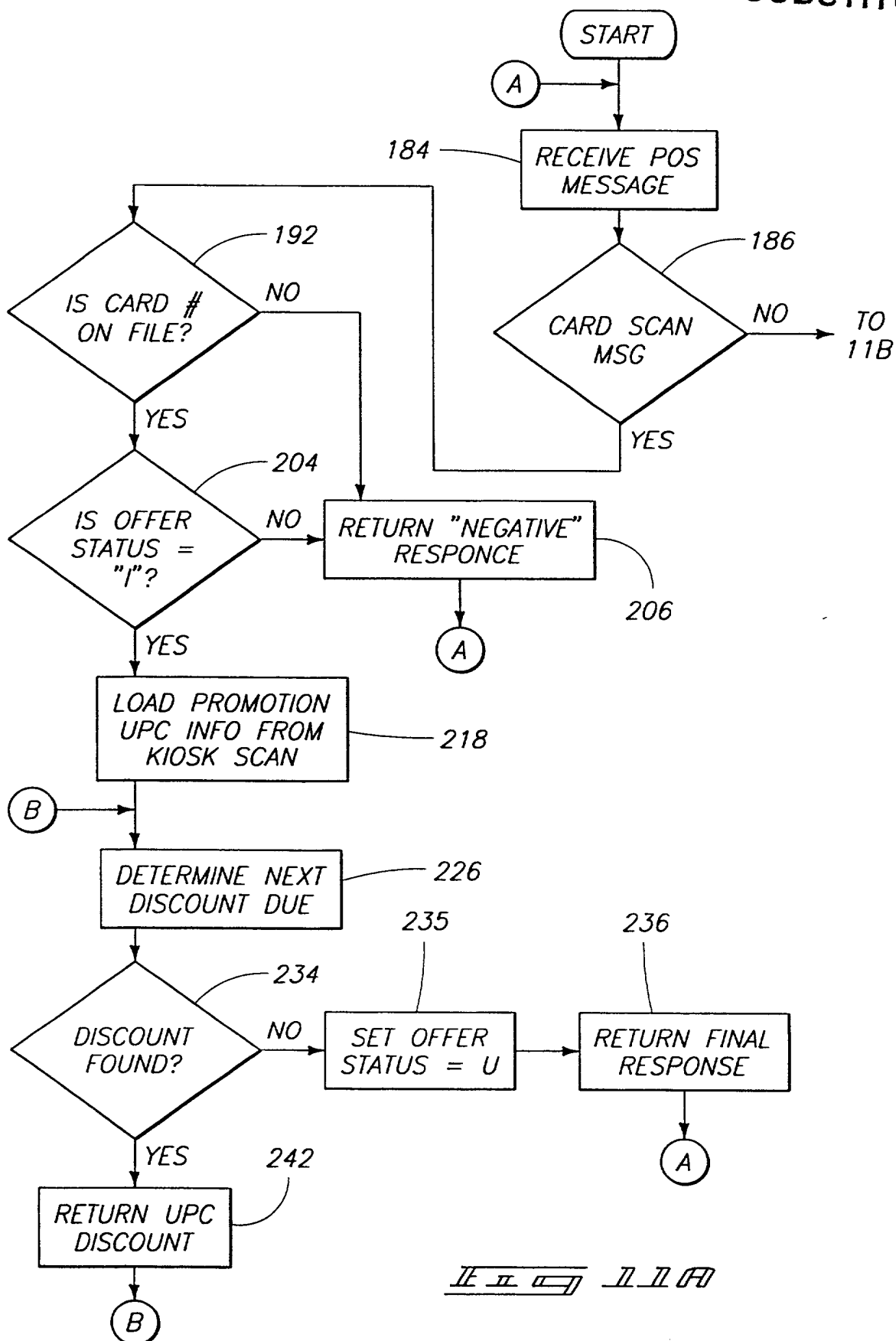
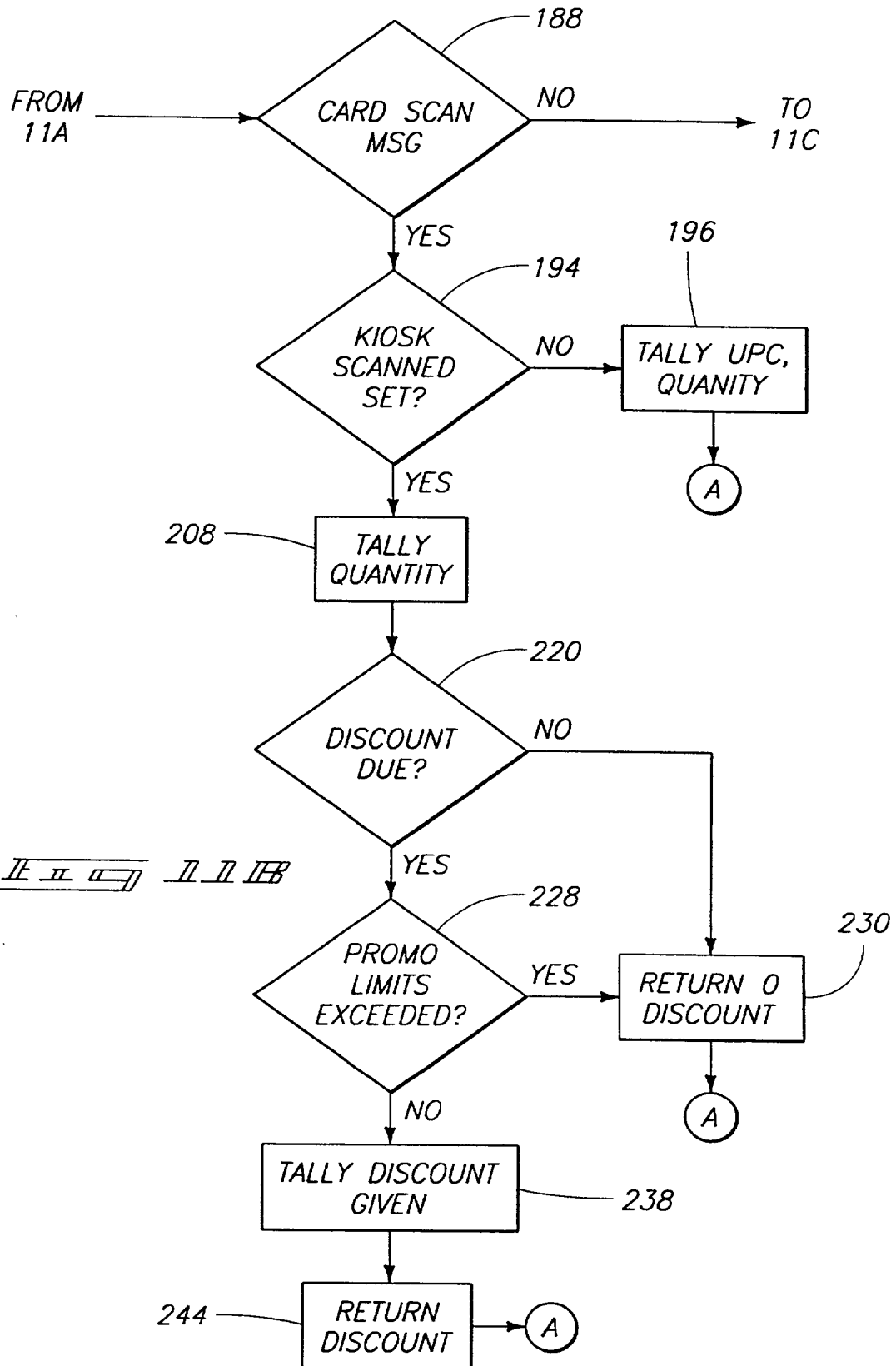


Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (n = 10) and the intervention group (n = 10). The control group received a standard care protocol, while the intervention group received a standard care protocol plus a 12-week intervention program. The intervention program consisted of a combination of physical and psychological interventions. The subjects were assessed at baseline, 4 weeks, 8 weeks, and 12 weeks. The primary outcome was the change in the level of physical activity, measured in minutes per week. The secondary outcomes were the change in the level of psychological well-being, measured in the SF-36 questionnaire, and the change in the level of adherence to the intervention program, measured in the percentage of subjects who completed the program.

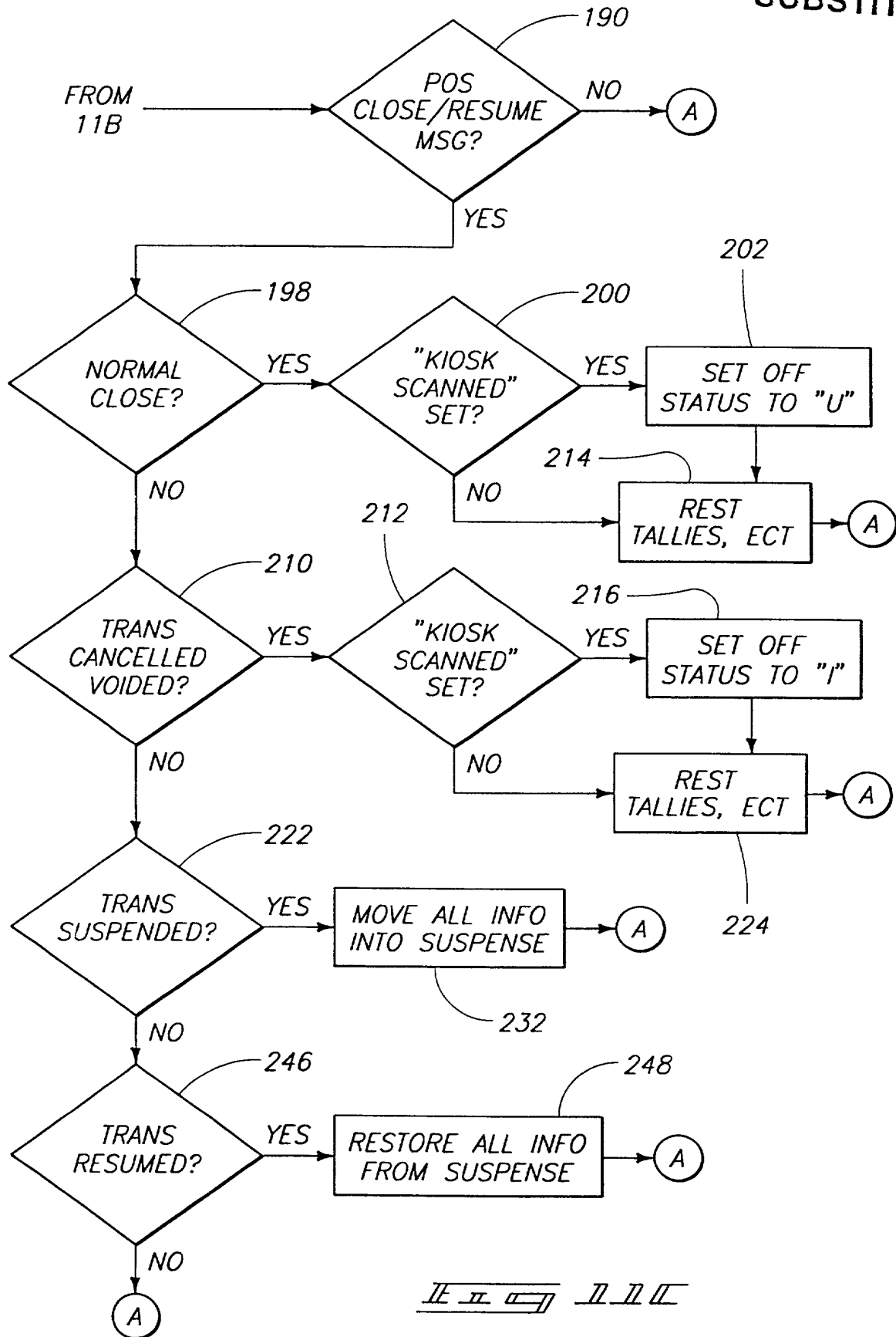


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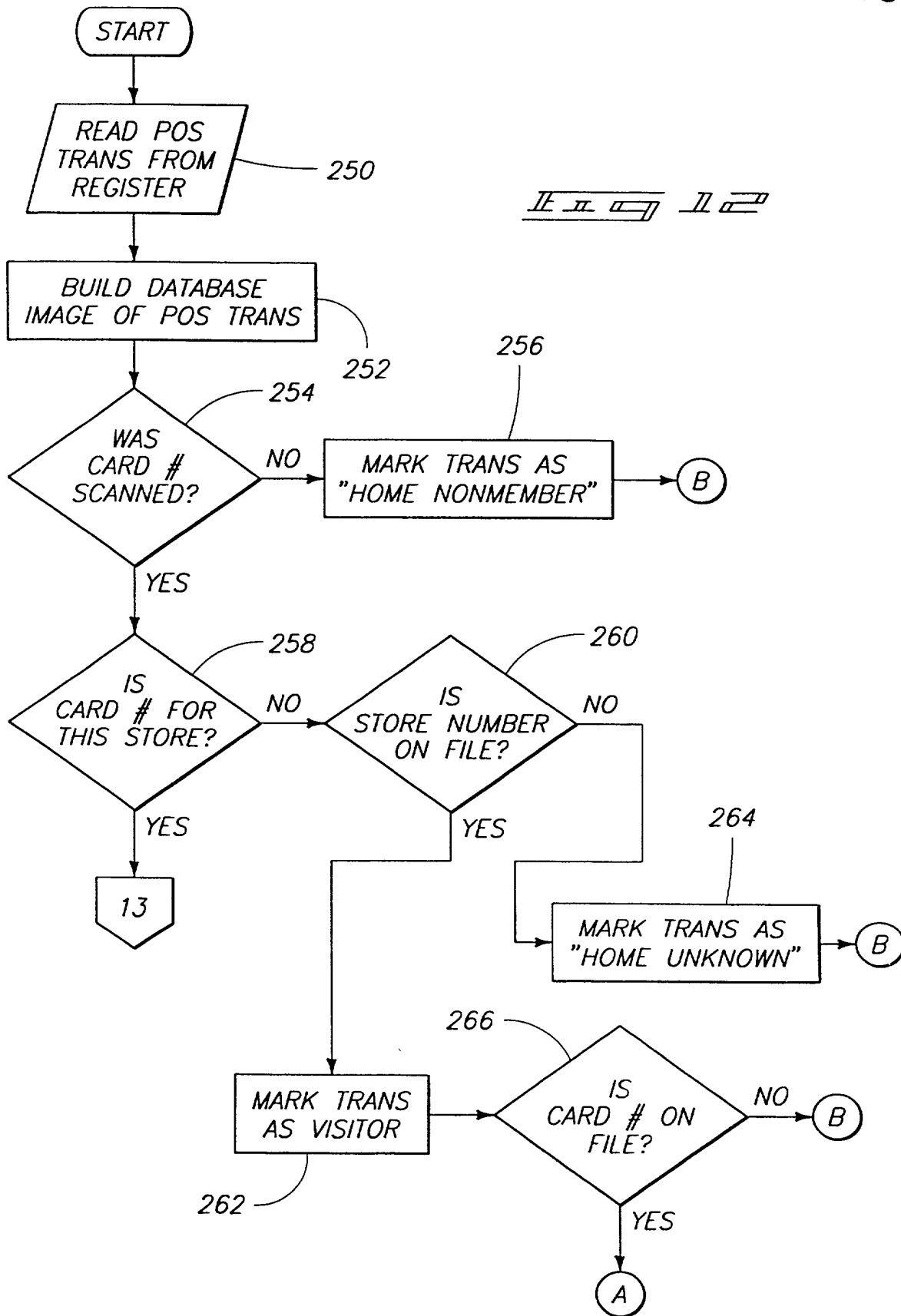


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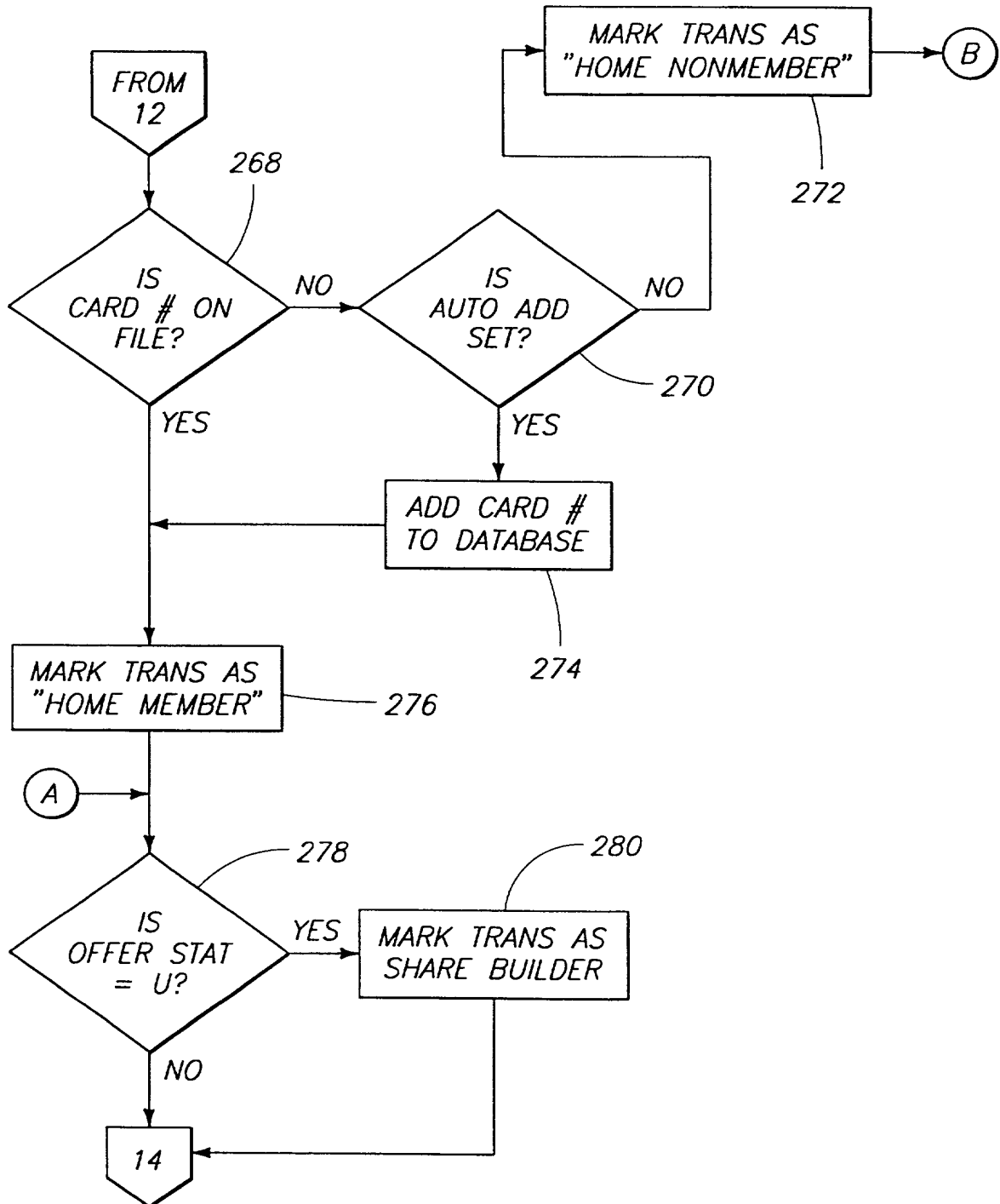
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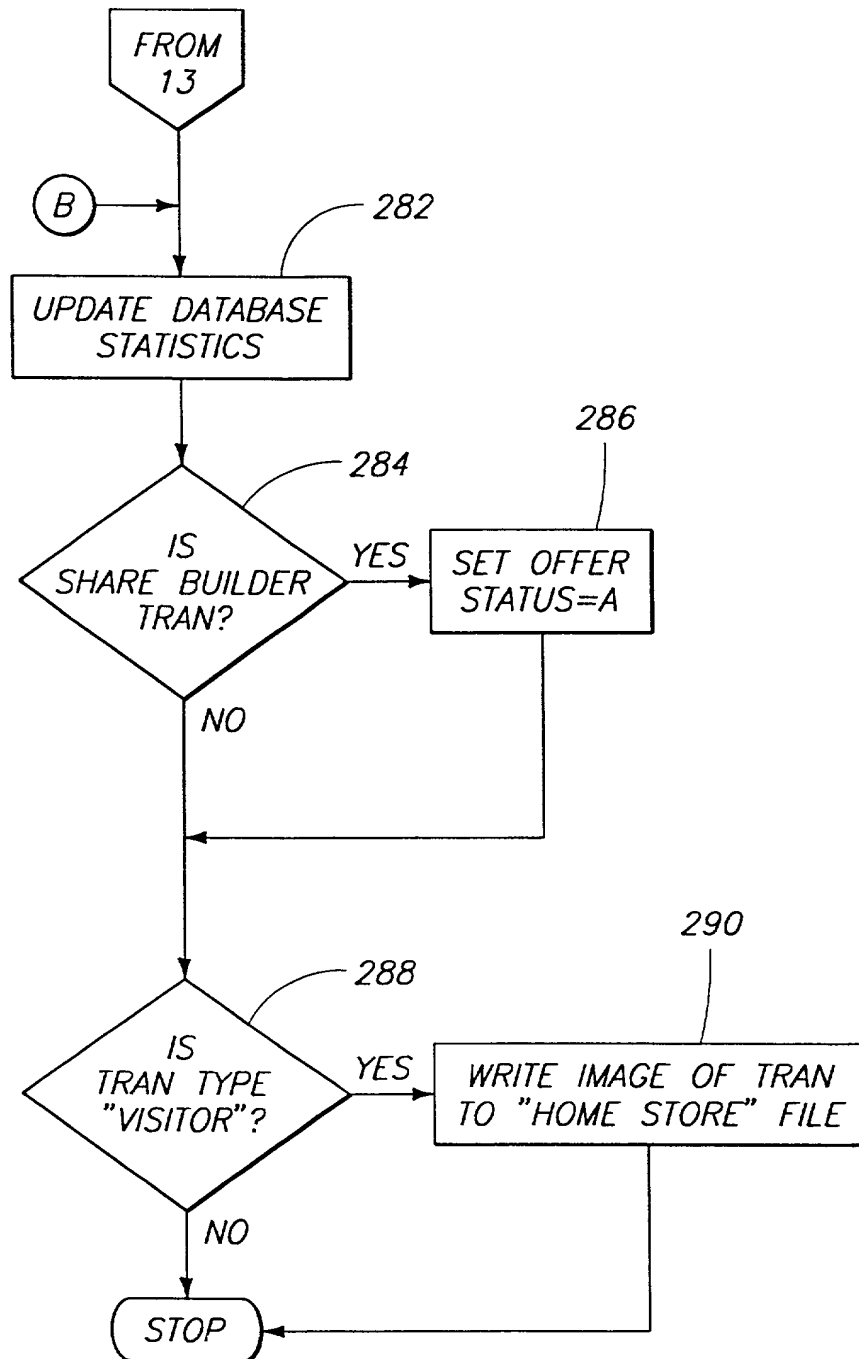
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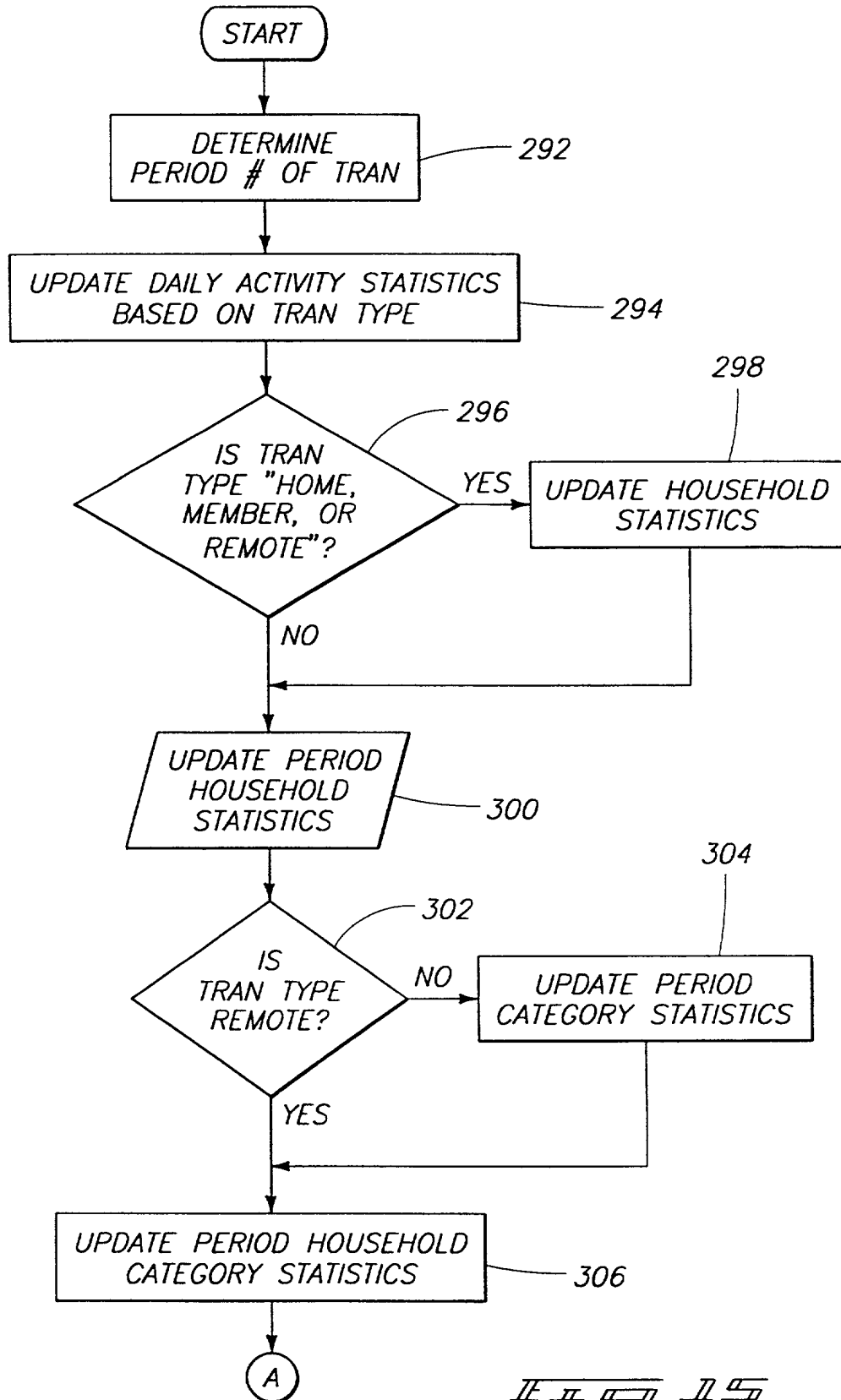
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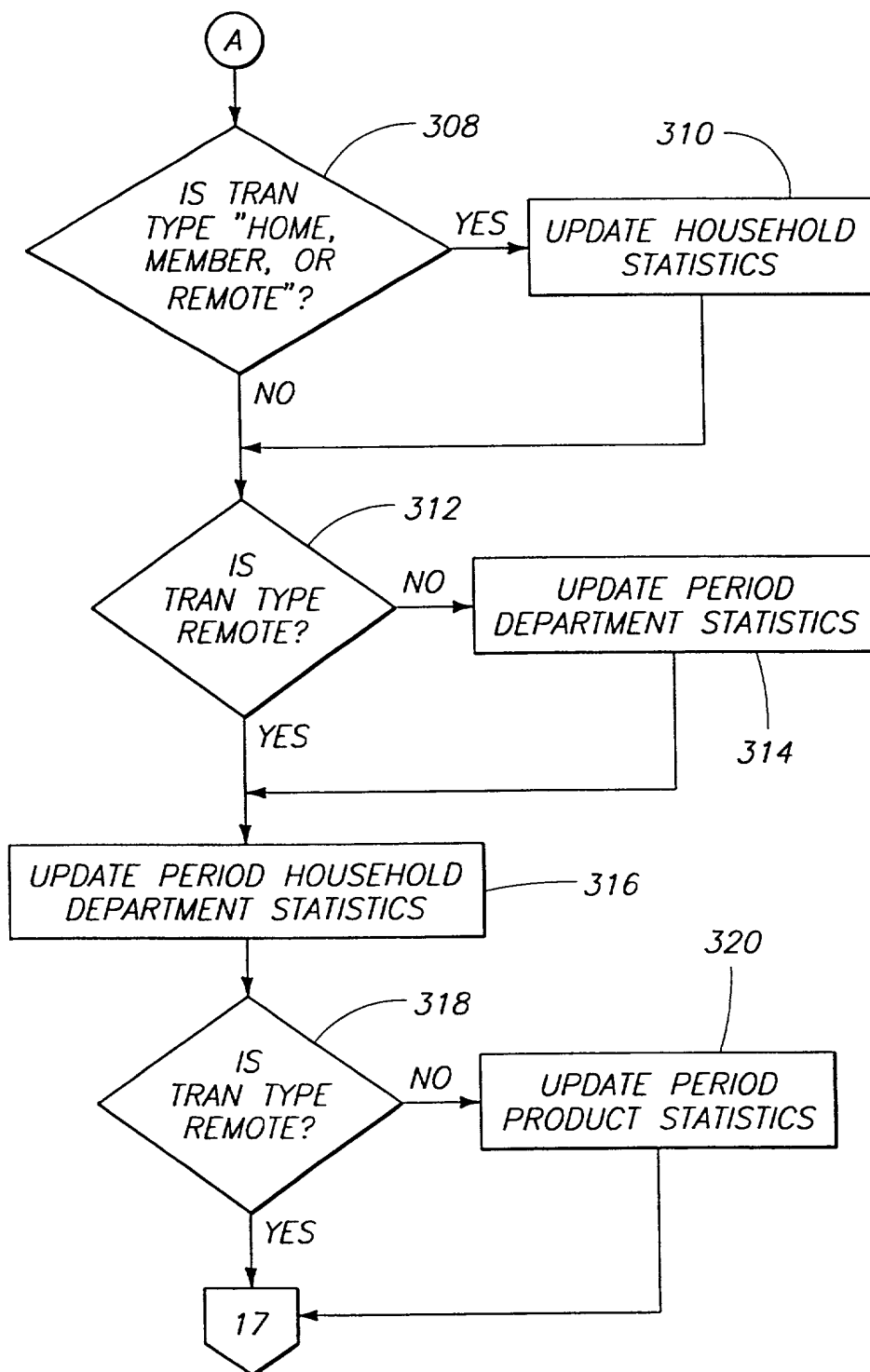
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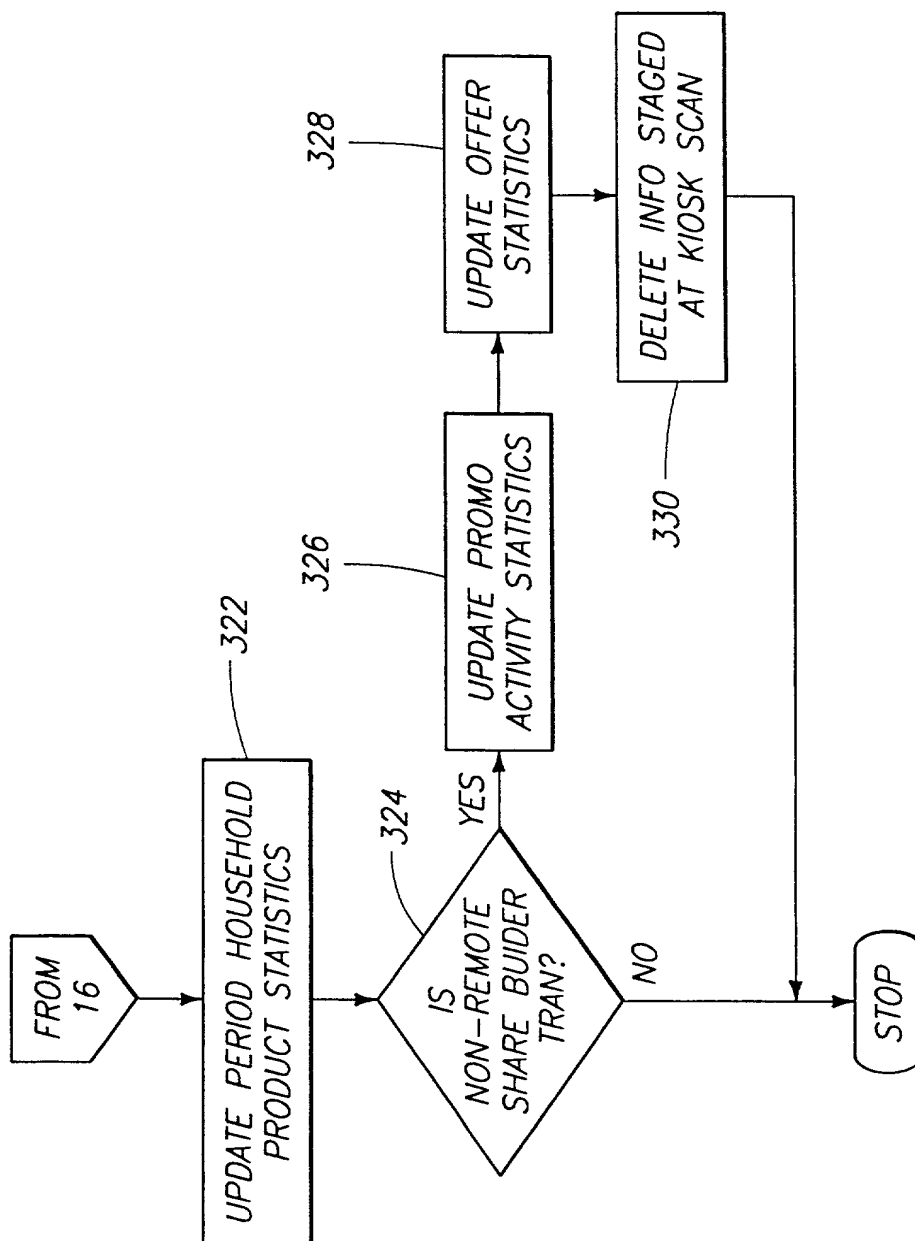
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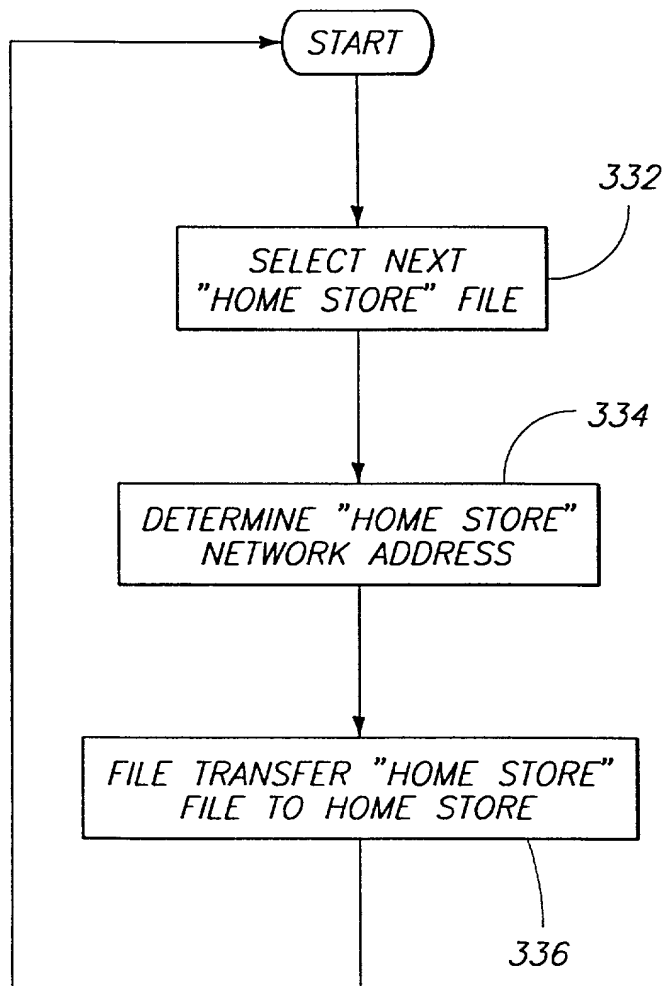


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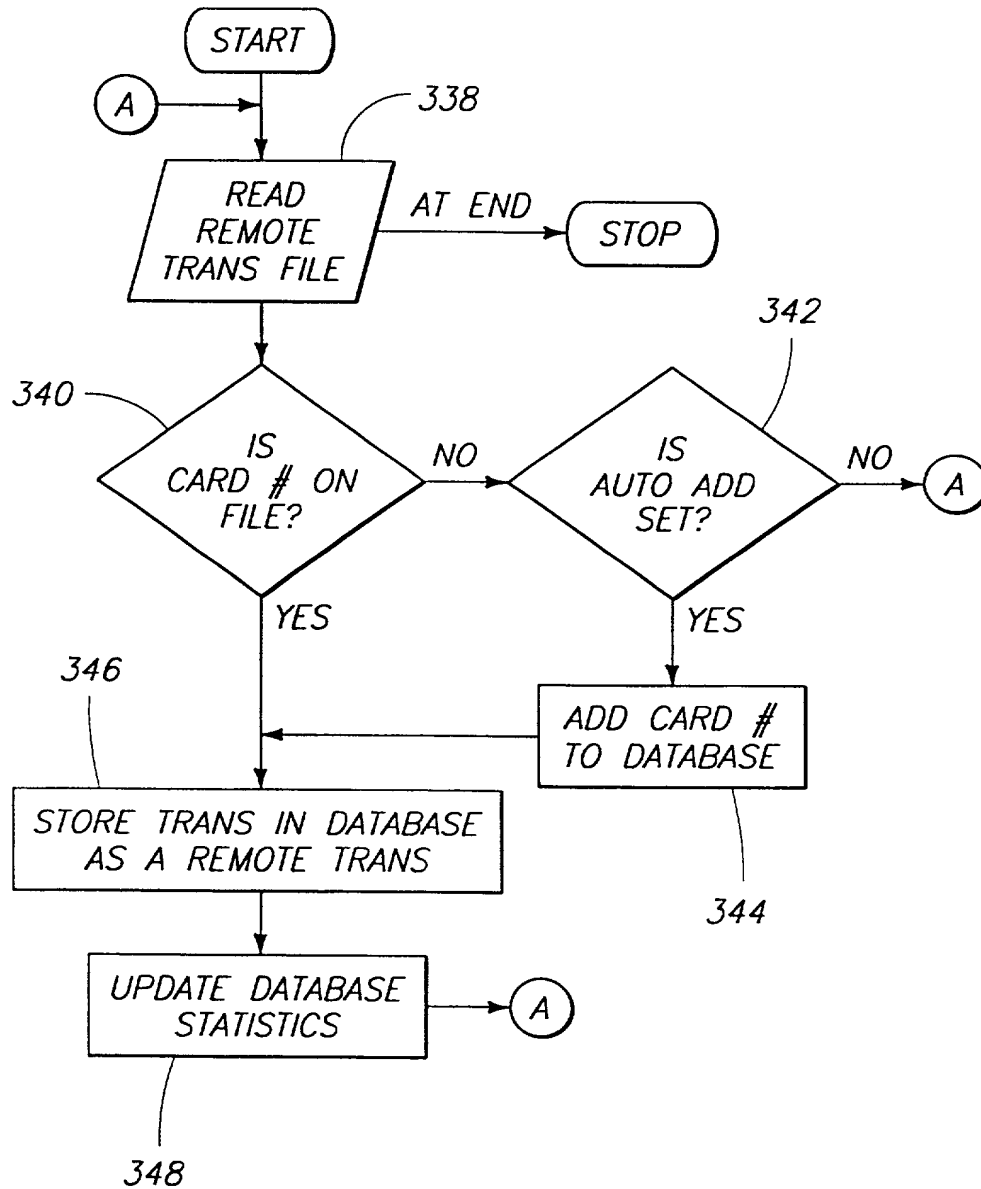
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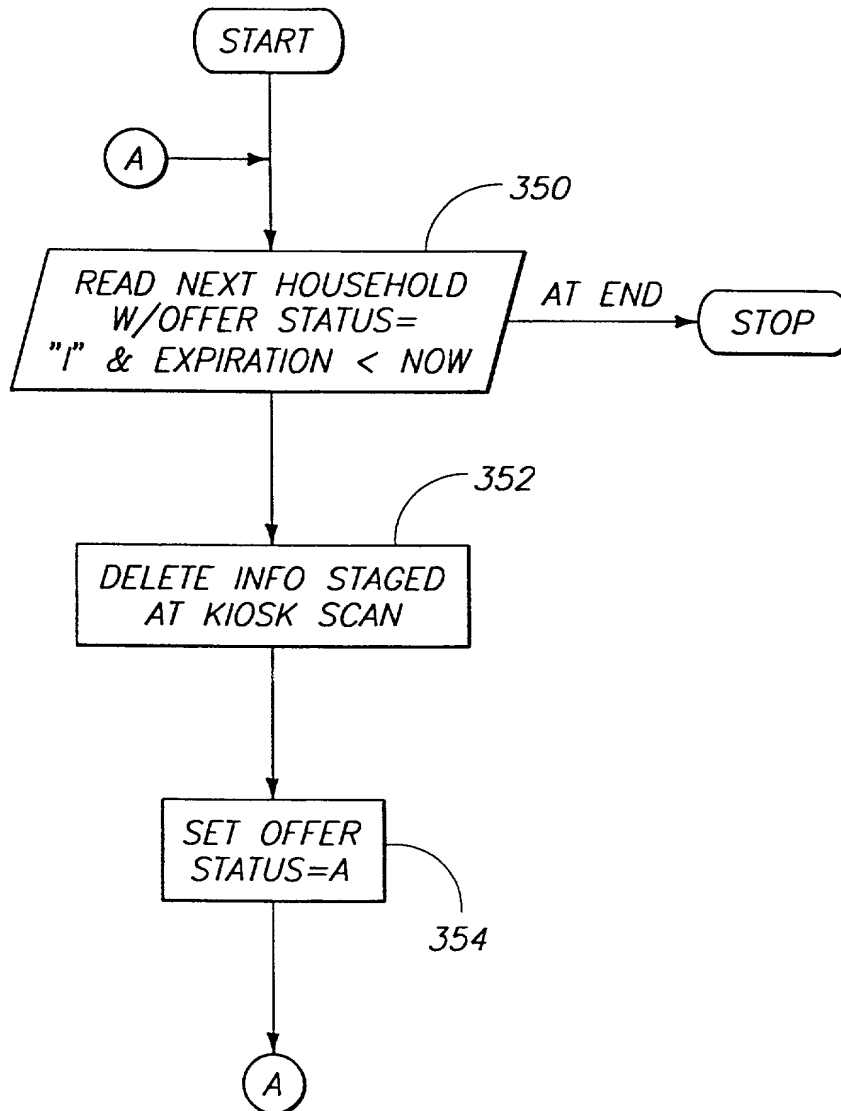
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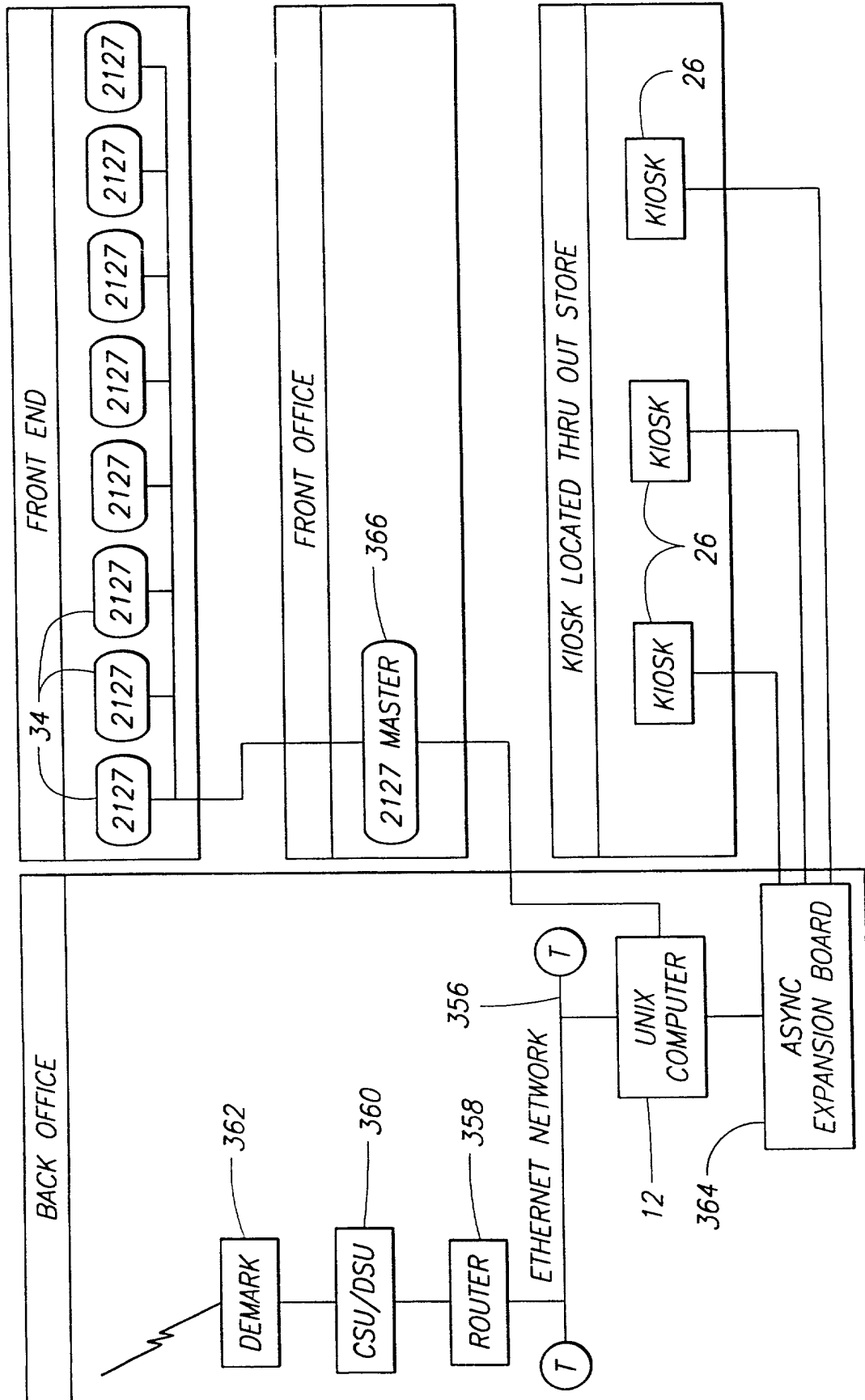


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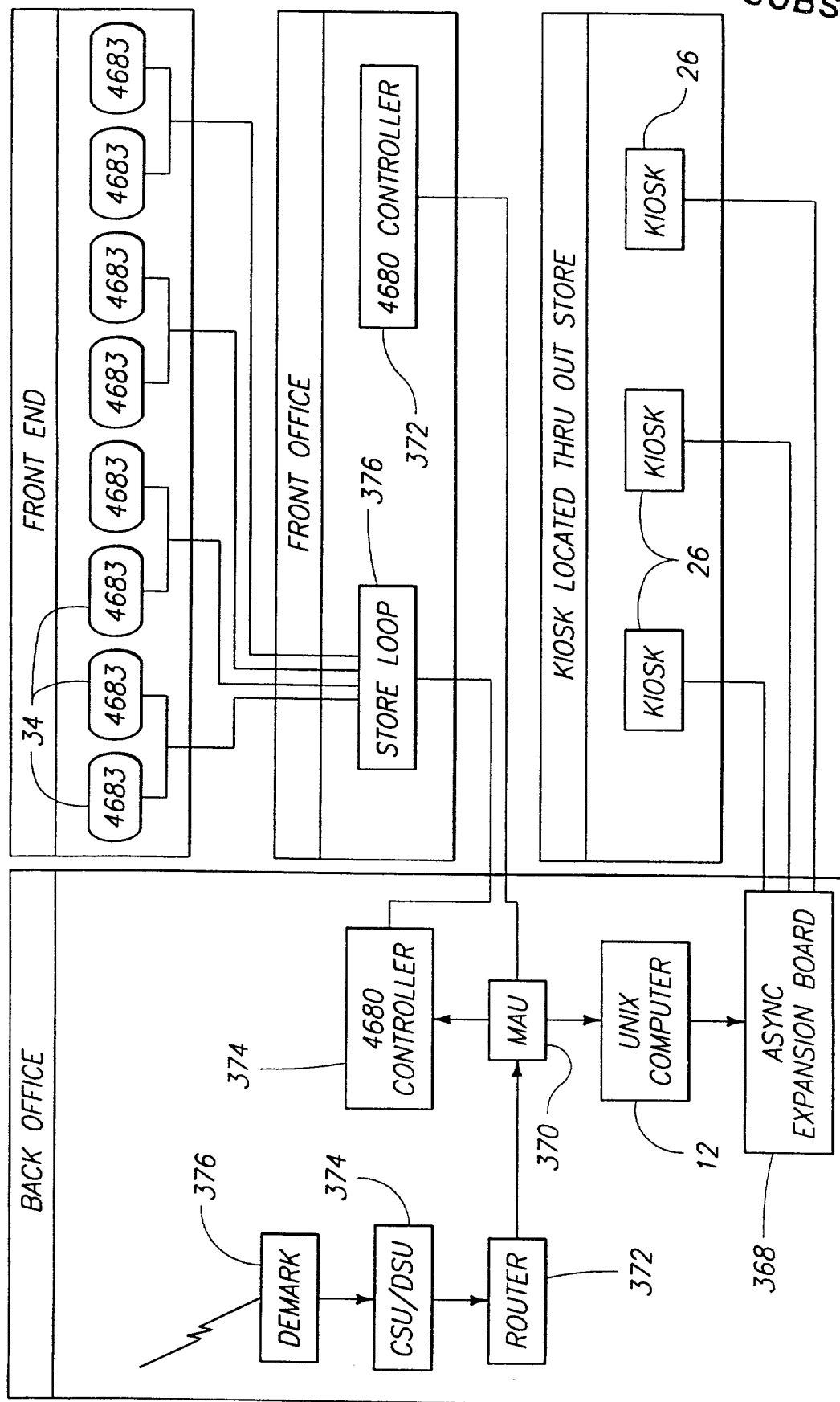
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23 OF 24

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Итого

1 IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

2 Application Serial No. 08/514,467
3 Filing Date August 11, 1995
4 Inventor Larry J. Day et al.
5 Assignee Micro Enhancement International
6 Group Art Unit Unknown
7 Examiner Unknown
8 Attorney's Docket No. MI43-001
9 Title: Targeted Marketing and Purchase Behavior Monitoring System

10 DECLARATION OF JOINT INVENTORS FOR PATENT APPLICATION

11 As the below named inventors, I hereby declare that:

12 My residence, post office address and citizenship are as stated
13 below next to my name.

14 I believe I am the original, first and joint inventor of the subject
15 matter which is claimed and for which a patent is sought on the
16 invention entitled: Targeted Marketing and Purchase Behavior
17 Monitoring System, Serial No. 08/514,467, filed August 11, 1995.

18 I hereby state that I have reviewed and understand the contents
19 of the above-identified specification, including the claims.

20 I acknowledge the duty to disclose to the Patent and Trademark
21 Office all information known to me to be material to patentability as
22 defined in Title 37, Code of Federal Regulations §1.56.

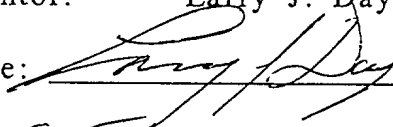
23 **PRIOR FOREIGN APPLICATIONS:**

24 I hereby state that no applications for foreign patents or inventor's
certificates have been filed prior to the date of execution of this
declaration.

1 I hereby declare that all statements made herein of my own
2 knowledge are true and that all statements made on information and
3 belief are believed to be true; and further that these statements were
4 made with the knowledge that willful false statements and the like so
5 made are punishable by fine or imprisonment, or both, under
6 Section 1001 of Title 18 of the United States Code and that such willful
7 false statement may jeopardize the validity of the application or any
8 patent issued therefrom.

9 * * * * *

10 Full name of inventor: Larry J. Day

11 Inventor's Signature: 

12 Date: 12-11-95

13 Residence: Spokane, Washington

14 Citizenship: USA

15 Post Office Address: P.O. Box 141147
16 Spokane, WA 99214

2025年12月25日

Inventor's Signature: Mike S. Smith
12/1/95

* * * * *

Inventor's Signature: Theodore Krutz

Post Office Address: P.O. Box 141147
Spokane, WA 99214

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No. 08/514,467
Filing Date August 11, 1995
Inventor Larry J. Day et al.
Assignee Micro Enhancement International
Group Art Unit Unknown
Examiner Unknown
Attorney's Docket No. MI43-001
Title: Targeted Marketing and Purchase Behavior Monitoring System

COMBINED POWER OF ATTORNEY AND STATEMENT

ESTABLISHING RIGHT OF ASSIGNEE TO PROSECUTE

Micro Enhancement International of Spokane, Washington, a corporation organized under the laws of the State of Washington, certifies that it is the assignee of the entire right, title, and interest in the patent application identified above, by virtue of an Assignment from inventors Larry J. Day, Merle S. Weinkauff and Theodore Knutson, a copy of which is attached.

The undersigned has reviewed the attached Assignment and, to the best of undersigned's knowledge and belief, title to the U.S. patent application identified above is in the name of Micro Enhancement International.

The undersigned is empowered to act on behalf of Micro Enhancement International.

As assignee and owner of all rights to the above-identified application, Micro Enhancement International hereby appoints the

1 following attorney(s) and/or agent(s) to prosecute this application and
2 transact all business in the Patent and Trademark Office connected
3 therewith: Richard J. St. John, Reg. No. 19,363; David P. Roberts,
4 Reg. No. 23,032; Randy A. Gregory, Reg. No. 30,386; Mark S. Matkin,
5 Reg. No. 32,268; James L. Price, Reg. No. 27,376; Deepak Malhotra,
6 Reg. No. 33,560; Mark W. Hendricksen, Reg. No. 32,356; David G.
7 Latwesen, Reg. No. 38,533; George G. Grigel, Reg. No. 31,166; and
8 Keith D. Grzelak, Reg. No. 37,144.

9 I hereby declare that all statements made herein of my own
10 knowledge are true, and that all statements made on information and
11 belief are believed to be true; and further, that these statements are
12 made with the knowledge that willful false statements, and the like so
13 made, are punishable by fine or imprisonment, or both under section
14 1001, Title 18 of the United States Code, and that such willful false
15 statements may jeopardize the validity of the application or any patent
16 issuing thereon.

17 Send correspondence to: WELLS, ST. JOHN, ROBERTS,
18 GREGORY & MATKIN P.S., W. 601 First Avenue, Suite 1300, Spokane,
19 Washington 99204. Direct telephone calls to: Randy A. Gregory
20 (509) 624-4276.

21 MICRO ENHANCEMENT
22 INTERNATIONAL

23 Dated: 12/11/95

24 By: Timothy G. Staples

Timothy G. Staples
Chief Executive Officer

WELLS DOCKET NO. MI43-002
OBLON DOCKET NO. 7791-0009-25SD (NEW NUMBER PENDING)

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF: DAY ET AL. : EXAMINER: POINVIL

SERIAL NO.: 08/978,856 :

FILED: 11/26/97

: GROUP ART UNIT: 2761

FOR: TARGETED MARKETING
AND PURCHASE BEHAVIOR
MONITORING SYSTEM

ASSOCIATE POWER OF ATTORNEY

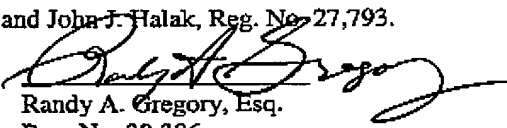
ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

The undersigned attorney of record in this application grants the following attorneys
associate power of attorney in this application:

Richard A. Neifeld, Reg. No. 35,299, Charles L. Gholz, Reg. No.26,395, Robert Mattson,
Reg. No. 42,850, Andrew M. Ollis, Reg. No. 40,749, W. Todd Baker, Reg. No. 45,265,
Philippe Signore, Reg. No. 43,922, and John J. Halak, Reg. No. 27,793.

DATE


Randy A. Gregory, Esq.
Reg. No. 30,386
Attorney of Record

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WELLS DOCKET NO. MI43-002
OBLON DOCKET NO. 7791-0009-25SD (NEW NUMBER PENDING)

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF: DAY ET AL. : EXAMINER: POINVIL

SERIAL NO.: 08/978,856 :

FILED: 11/26/97 : GROUP ART UNIT: 2761

FOR: TARGETED MARKETING
AND PURCHASE BEHAVIOR
MONITORING SYSTEM

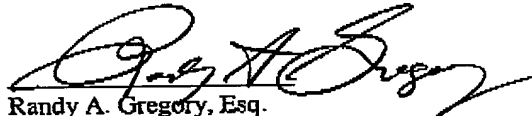
CHANGE OF CORRESPONDENCE ADDRESS

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Please address all future correspondence to:
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1755 Jefferson Davis Highway, 4th Floor
Arlington, VA 22202

15 Mar. 2000
DATE


Randy A. Gregory, Esq.
Reg. No. 30,386
Attorney of Record

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